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THE KATATONIC SYMPTOM-COMPLEX.

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In 1874 Kahlbaum published a monograph on a clinical form of mental disorder to which he gave the name of Katatonia or tension-insanity (Spannungsirresein), and which he defined as follows:

"Katatonia is a disease of the brain with cyclically changing course, in which the psychical symptoms take by turns the form of melancholia, mania, stupor, confusion, and finally, dementia, one or more of which psychical composites may be wanting, and in which, along with the psychical symptoms, processes appear in the motor nervous system, as the essential symptom, with the general character of spasm."

These motor symptoms he considers the essential characteristic of the disease, comparing them, in this respect, to the motor phenomena of general paresis, which are considered to establish the identity of that disorder, although associated with very diverse mental symptoms. According to his account, they may assume a very considerable variety of forms. Perhaps the most striking is the so-called "melancholia attonita," which is often described as a distinct form of disease, but, according to Kahlbaum, is only an episode in katatonia. Epileptiform and choreiform convulsions are common, especially in the earlier stages. Another of the earlier symptoms is a condition which he characterizes as "negativism," of which the vernacular word "contrariness" is perhaps, quite as accurately descriptive, consisting in obstinate

and purposeless resistance to whatever is undertaken with the patient, silence, and refusal of food. Usually at a later period there is a tendency to stereotyped movements and peculiar and strained attitudes. Analogous to this latter is the symptom to which the author has given the name of "verbigeration"—the repetition, in a declamatory style, of words, sentences or phrases.

The course of the mental symptoms, according to his account, is usually, as intimated above, at the outset a stage of melancholic depression, followed, in a certain proportion of cases, by a maniacal condition of short duration. This maniacal stage, or, in the cases in which it is wanting, the initial melancholia, is followed by the condition known as "melancholia attonita," which, in rare cases, may be present from the outset. From this the patients may pass into dementia, or recovery may take place.

The prognosis as to mental recovery he considers, on the whole, rather favorable, but he finds that the patients have a strong proclivity to pulmonary tuberculosis.

Kahlbaum's paper has given occasion to an immense amount of discussion, in which almost every possible shade of opinion as to the correctness of his views has been expressed. To attempt to review the whole literature of the subject would be wearisome and unprofitable. The views of Kraepelin in regard to prognosis are, however, worthy of mention. He lays much stress upon a tendency to remissions, which are apt to be sudden, and, on superficial examination, often appear complete, though a more careful investigation will usually reveal slight evidences of emotional or intellectual disorder. These remissions are, in most cases, of short duration, but in a pretty large proportion—according to his experience more than a third of the patients—they may last for a considerable time, simulating recovery, although, even in such cases, there are usually some peculiarities indicating that all is not right. The symptoms usually recur within five years, although in rare instances the remission may last ten years, or even longer. His experience has led him to suspect that the recoveries reported by Kahlbaum and most other writers on the subject have either involved mistakes in diagnosis or long remissions. He is strongly inclined to the belief that dementia is the ultimate outcome in all cases, although it may consist only in a moderate degree of weak-mindedness.

MEN.

No.	Age.	Heredity.	Exciting cause.	Duration.	Convulsions.	Stupor.	Catalepsy.	Mutism.	Verbigeration.	Contrariness.	Refusal of food.	Peculiar postures and movements.
1..	31	Denied.	Epilepsy.	6 mos.	1	1	1	....	....	....	1	1
2..	40	Unknown.	Unknown.	1 mo.	....	....	....	1	....	1	....	1
3..	30	"	"	Unknown.	....	1	....	1	....	....	1	1
4..	34	Aunt and grandmother insane.	Masturbation.	2 mos.	....	1	1	....	1	....	....	1
5..	55	Unknown.	Unknown.	1 mo.	....	1	....	....	1	....	1	1
6..	34	Denied.	"	1 mo.	...	1	1	1	....	1	1	....
7..	31	Unknown.	"	Unknown.	....	1	1	....	....	....	....	....
8..	39	Asserted.	"	5 yrs.	1	1	1	1	1	1	1	1
9..	26	Unknown.	"	Few days.	1	1	1	....	...	1	....	1
10..	25	Asserted.	"	1 mo.	....	1	1	1	1	1	....	1
11..	34	Unknown.	"	Unknown.	....	1	1	....	....	....	....	1
12..	30	Denied.	Intemperance	"	1	1	....	1	....	....	....	....
13..	50	"	Application.	1 mo.	....	1	....	1	....	1	....	....
14..	21	"	Masturbation.	3 mos.	1	1	....	1	1	....	....	....
15..	50	Father insane.	Unknown.	3 mos.	....	1	1	....	....	....	1	1
16..	49	Denied.	"	11 yrs.	....	1	1	....	....	....	1	....
17..	27	Uncle and aunt insane.	"	6 mos.	....	....	....	....	....	....	....	1
18..	32	Unknown.	"	Unknown.	....	1	1	....	....	....	1	1
19..	22	Asserted.	Anxiety.	9 mos.	?	1	1	1	....	1	1	....
20..	26	Unknown.	Unknown.	3 yrs.	1	1	1	1	....	1	1	1
21..	23	"	"	Unknown.	....	1	1	....	....	1	1	1
22..	26	"	"	3 mos.	....	1	1	....	....	1	....	....
23..	16	Aunt insane.	Masturbation.	3 weeks,	1	....	....	....	....	....	1	....
24..	39	Unknown.	Unknown.	Unknown.	....	1	1	....	....	....	1	....
					7	21	16	10	5	10	11	16

WOMEN.

1..	29	Great grandmother and great aunt insane.	Distress.	10 yrs.	....	1	1	1	1	....	1	1
2..	18	Unknown.	Unknown.	1 mo.	....	1	1	1	1	1	1	1
3..	23	Denied.	Homesickness	3 mos.	....	1	1	1	1	1	1	1
4..	41	"	Worry.	1 mo.	....	1	....	1	....	1	1	....
5..	28	"	Puerperal fright.	4 mos.	....	1	....	....	....	1	1	....
6..	43	Unknown.	Worry.	1 mo.	....	1	1	1	1	1	1	....
7..	33	Denied.	Unknown.	3 weeks.	....	1	1	....	1	1	1	....
8..	25	"	Operation.	3 weeks.	....	....	....	....	1	....	1	....
9..	30	Unknown.	Puerperal.	1 week.	...	1	1	1	1	1	1	1
10..	50	Denied.	Menopause.	1 mo.	....	1	1	1	....	1	1	1
11..	39	Father insane.	Abortion.	5 yrs.	....	1	....	1	....	1	1	1
12..	40	Denied.	Unknown.	2 mos.	....	....	....	1	1	1	1	....
13..	45	Mother: paternal cousin.	"	10 days.	....	1	1	1	1	1	1	1
14..	27	Denied.	"	2 days.	....	1	....	1	....	....	1	....
15..	25	"	Ill health, worry.	18 mos.	....	1	1	1	1	1	1	1
16..	44	Aunt insane.	Worry.	2 yrs.	....	....	....	....	1	1	1	1
17 .	22	Brother and sister insane.	Unknown.	18 mos.	....	1	....	....	....	....	....	1
18..	18	Mother and aunt insane.	Anxiety and overwork.	2 mos.	....	....	....	1	....	1	1	....
19..	26	Mother and grandmother insane.	Unknown.	4 days.	....	1	1	1	1	....	1	1
20..	24	2 Aunts insane.	Grief.	8 days.	....	1	1	1	....	1	1	1
					1	16	11	15	12	15	19	12

MEN.

Verbigeration.	Contrariness.	Refusal of food.	Peculiar postures and movements.	Depression.	Excitement.	Religious delusions.	Symbolism.	Remissions.	Recoveries.	Dementia.	Deaths.	Remarks.
..	....	1	1	1	1	1	....	....	....	1	....	Epileptic.
..	1	....	1	1	....	1	....	....	....	1	....	
..	....	1	1	1	....	....	....	1	....	1	....	
1	....	....	1	....	1	....	....	1	....	1	....	
1	....	1	1	1	1	1	....	1	....	....	....	
..	1	1	....	1	....	....	....	....	....	1	....	
..	....	....	....	1	1	....	....	....	....	1	....	
1	1	1	1	1	1	....	....	....	....	....	....	
..	1	....	....	1	....	....	....	....	....	....	....	
1	1	....	1	1	1	....	....	....	....	1	....	
..	....	....	1	....	....	....	....	....	....	....	....	
..	....	....	....	....	....	....	....	....	....	1	....	
..	1	....	....	1	....	....	....	....	....	1	....	Attempted suicide.
1	....	....	....	....	....	1	....	....	....	1	....	
..	....	1	1	1	....	....	....	1	....	1	1	2 previous attacks; considered recovered; tuberculosis.
..	....	1	....	....	1	1	....	....	....	1	....	
..	....	....	1	1	....	....	....	....	....	1	....	
..	....	1	1	1	1	....	....	....	....	1	....	
..	1	1	....	1	1	....	....	....	....	....	....	
..	1	1	1	....	1	1	....	1	....	1	....	Previous attack, 1883.
..	1	....	....	....	....	....	....	....	....	....	....	
..	....	....	1	....	1	....	....	....	....	....	....	
..	....	....	1	....	1	....	....	....	....	1	....	
5	10	11	16	13	14	6	1	5	....	17	1	

WOMEN.

1	....	1	1	1	1	....	....	1	....	1	....	
1	1	1	1	1	1	....	....	....	....	1	....	
1	1	1	1	1	1	1	....	....	1	....	....	
..	1	1	....	1	....	....	1	1	....	1	....	2 previous attacks.
..	1	1	....	1	1	....	....	....	....	1	....	
1	1	1	....	....	1	1	1	1	....	....	....	
1	1	1	....	....	1	1	....	....	1	....	....	
1	....	1	....	....	1	1	1	....	1	....	....	
1	1	1	1	1	1	1	....	1	....	....	....	
..	1	1	1	....	1	1	1	1	....	1	....	
1	1	1	....	1	1	....	1	....	....	....	....	
1	1	1	....	1	1	....	....	....	....	1	....	
..	....	1	....	1	1	....	....	....	1	....	....	
1	1	1	1	....	....	....	....	....	....	1	....	
1	1	1	1	1	1	....	....	1	....	1	....	
..	....	....	1	....	1	....	....	....	....	1	....	
..	1	1	....	1	1	....	....	....	....	....	1	Suicidal. Died of pneumonia.
1	....	1	1	1	....	....	....	....	....	....	....	
..	1	1	1	1	....	....	....	....	....	....	....	
12	15	19	12	14	15	7	6	6	4	10	1	

Kahlbaum's view of katatonia as a distinct form of disease rests entirely on clinical grounds. He does not claim to have discovered any etiological factor peculiar to it, and, so far as I am aware, the pathological anatomy upon which the symptoms may be supposed to depend is as yet unknown. In such circumstances, three questions naturally suggest themselves: First, whether the symptoms described are uniformly associated; second, whether they are ever absent in cases which there is reason to believe to be of the same nature; third, whether they are ever present in cases which there is reason to believe to be pathologically distinct. The answers to these questions must be furnished by clinical observation, having regard to all the pertinent facts. There is always danger, in making general statements founded on impressions, that they may be unduly influenced by some specially striking cases, while others, equally revelant, may be overlooked.

I have collated all the cases presenting any of the symptoms considered to be characteristic of this disorder, admitted to this institution during the year 1898, and, both in order to save space, and for greater convenience of comparison, I have thought it best to put them in tabular form, giving also, in some detail, histories of a few illustrative cases.

From the foregoing table, the following facts are, it seems to me, evident.

First. Katonic symptoms are no great rarity. The total number of admissions in 1898 was 430. Among these, forty-four, or approximately ten per cent., presented such symptoms.

Second. Symptoms of this class are not usually isolated. Patients presenting one will very generally, if carefully observed, be found, at one time or another in the course of their disease, to show the clinical picture of katatonia in more or less completeness, although few, if any, fill it out entirely.

Third. Symptoms of this class must be held to be of unfavorable prognostic significance. None of the men included in the table have been discharged as recovered, and none of those remaining under treatment are in a condition warranting any such expectation. Of the women, four have been classed as recovered, but it must be considered doubtful whether, in any of these cases, the apparent recovery is anything more than a remission. This

is especially significant in view of the short duration of the disease before admission in a large proportion of the cases. In twenty of the forty-four, it was stated to be not more than a month.

It will further be noticed that the comparative frequency of the individual symptoms varied very considerably in the two sexes. The proportion of cases of stupor and catalepsy is not very different, but verbigeration, or the meaningless repetition of words and phrases, was only noticed in five of the men against twelve of the women. This might be supposed to be due to the greater natural loquacity of the female sex, but the fact that fifteen women and only ten men were obstinately silent at some time during their disease can scarcely be accounted for in this way. Contrariness, or negativism, is noted in ten men and fifteen women. Refusal of food is evidently, in a large proportion of cases, merely a form of contrariness, but it is also, not infrequently, due to apprehension of poisoning. This was observed in all but one of the women, and in only eleven, or little less than one-half, of the men. The tendency to take strange and constrained postures, on the other hand, was both more frequent and more striking in the men than the women. There is a history of convulsions, either occurring here or before admission, in seven men and only two women. Doubtless these last numbers would be enlarged if all the facts could be known, but in most of the other cases their occurrence was explicitly denied.

Of the more strictly mental symptoms of these cases, confusion of mind has not been tabulated, because it was present, at some time, in all the cases without exception. Although the stuporous or lethargic condition is often considered to be a form of melancholia, it is not, in my observation, by any means invariably associated with grief or apprehension. So far as I have been able to ascertain, the emotional state in such conditions is much more commonly apathetic, and evidence of amusement at what is going on is not very uncommon. Distinct evidence of depression was obtained in thirteen men and fourteen women. Excitement, including both elation and outbreaks of rage, was noted in fourteen men and fifteen women.

A good deal of stress has been laid, in some quarters, on religious delusions, especially in the form of communications with

God or angels, and symbolism, or a tendency to attribute a mystical significance to indifferent objects. These were observed in only a small proportion of the cases tabulated, both being more common among women than men.

The following abstracts may serve as illustrations of the course of this class of cases:

Case 1. F. S., a printer; admitted August 30, 1898; aged 28; married. Heredity was assigned, in the commitment papers, as the cause of his insanity, but the queries on this point in the form furnished for the preliminary history were left unanswered. His mother states that he has been of strictly temperate habits. He became insane five years previously to admission and was treated in the Concord, N. H., Asylum, and while there was melancholic and cataleptic. Previously to his treatment there he had convulsions. "Has changed from sleeplessness to a dead sleep for three months, awoke calm, then into a state of mania; was frightened and excited; then from that to talking and singing; for the past year has sung nearly all the time."

Dr. Bancroft, of the New Hampshire Asylum, states that he was admitted to that institution February 14, 1893, with all the characteristic appearances and conduct of a case of acute melancholia. He was discharged on trial, but little changed mentally, on May 23 of the same year, and returned, in the same condition, on the 22d of the following June. "During this second residence at the Asylum he seemed to be affected with stuporous melancholia. He was cataleptic and was fed for several months. He at times would nod assent and say a few words, but most of the time was dull and stupid, and required to be bathed and fed and exercised." He was discharged, not improved, October 13, 1894.

He arrived at this institution in a state of violent excitement, shouting, kicking, jumping into chairs, and laughing without occasion. He persisted for two days in tearing every article of clothing supplied to him. He then passed into an apparently stupid condition, paying no attention to his surroundings, and making no answers to questions. April 25, he showed cataleptic symptoms, and went through stereotyped movements, touching his mouth and chest over and over. He continued stupid for some weeks, allowing saliva to run from his mouth. June 7, he had an outbreak of violent conduct in the dining-room; broke dishes and assaulted other patients.

He remained in a stupid condition, most of the time, until his removal, by the State Board of Lunacy and Charity, August 30, 1898.

Case 2. W. B., a laborer; 55 years of age; native of Nova Scotia; married; was admitted February 22, 1898. He was stated to have been insane for a month, and religious excitement was alleged as the exciting cause, although, judging from his conduct after admission, it is quite probable that it was a symptom of his mental disturbance. He was depressed; would only eat and drink what had been tasted by his wife and

children, fearing poison. Imagined that a young man was in the house for the purpose of abducting his daughter. He said his life-work was done, and he wanted to go away. Although entirely illiterate, he was said to have been a man of more than average natural intelligence and shrewdness.

Physically, he was a well-developed man, without noticeable abnormalities. At the morning visit, the day following his admission, he was found facing a plant-stand, in an attitude of prayer, repeating in a monotonous tone, "Get thee behind me, Satan." On being made to move from the place, he became violently excited, shouted verses of Scripture, and assaulted several patients without provocation. When taken into a room for examination, he kept shouting, "I am He!" at the top of his voice. Said he was God; had come to recall the people of Israel; that the physician was chief of the devils. Finally he became mute; would not protude tongue, or assist in any way about the examination.

For two days he refused to be clothed or to eat. He then became quiet, and showed some appreciation of his condition, although considerably confused. A few days afterwards he announced that bread and water was the staff of life, and for quite a long time would eat nothing else. He walked back and forth on a certain board in the floor, saying that the Lord had told him to do so.

The active manifestations of insanity gradually subsided; he was soon given employment in the congregate dining hall, where he has continued to do efficient service. For some months there has been nothing in his conduct calculated, to the casual observer, to excite suspicion of his sanity. If questioned, however, it is easy to bring out the idea that he has some important religious mission, and that he considers himself immortal. He seems entirely content with his situation, and says he has no wish to leave the hospital, although he has a family in a neighboring town.

Case 3. W. M., male, aged 22, was admitted October 24, 1898. Heredity was alleged as the predisposing cause in the commitment papers, but his mother stated that the only insane relative was an uncle who was "silly" after an injury to his head. He is single, and a high-school graduate. He was considered of ordinary mental capacity, and his habits, so far as known, have been correct. According to his own statement, he has followed various occupations since graduating from the high school in 1895, never remaining more than a few months in a place. Amongst other things, he was employed for a month as an attendant in a private institution for the insane, and his mother thinks he has never been altogether well since. Last winter he began to be low-spirited because he did not succeed in obtaining work; was afraid the boys would call him a loafer. Three weeks before admission he took morphine with suicidal intent; was found on the street by the police and taken to the Boston City Hospital, where he recovered under appropriate treatment. The day before his admission he made a disturbance in church, and was taken to the police station.

On admission, he was found to be a man of medium height, muscular and well-nourished, with no marked physical peculiarities except adherent ear lobules and a high palate. Knee-jerks could not be elicited. He appeared rather theatrical in his manner; rolled his eyes about; made grimaces, and held his hands in constrained positions. Refused to answer questions in regard to hallucinations of hearing, on the ground that the examiner "knew all about it." Was reported to have had a fit, thought to have been hysterical in the morning. When examined before the medical staff, October 27, he stated, in regard to this suicidal attempt, that he bought six one-quarter-grain pills, and thinks he took them all; was sorry afterwards, and took a glass of vinegar as an emetic; also ran his finger down his throat to induce vomiting. States that false hearing is a form of insanity, and that he had false hearing after leaving the asylum where he was employed; imagined that he heard people whispering about him and accusing him of having syphilis. In regard to his conduct in church, he said that he was so moved by the music that he wept, and then whispered loud enough for people about him to hear.

Oct. 27, it is noted that he makes senseless resistance about being dressed and undressed, going to his meals, etc. Frequently makes peculiar passes with his hands.

Oct. 31, he remained in bed all day, refusing to speak, open his eyes, or eat.

Nov. 1, he made his escape by breaking out a window sash. He was quickly overtaken, and made but slight resistance to being brought back.

Of late, he has manifested none of the motor symptoms of katatonia. He appears to have hallucinations of various senses; claims that people crawl up through the floor and get inside of him, to his injury; that he has swords in his head. Is tired of hearing what goes on down stairs, but will not say what it is. Would like to get a revolver to blow his brains out.

Case 4. R. M., a married woman; aged 28; French Canadian by birth, was admitted Nov. 9, 1896. Insane relatives denied. The patient gave birth to her first child September 7, 1896, and seemed slightly confused immediately afterward, but that soon passed away, and she appeared well mentally for some weeks. About November 1 she began to be depressed and confused, and developed hallucinations of hearing of a terrifying nature. She refused to eat, and declared she was going to die; would talk scarcely any English, although able to do so.

On admission, she was a robust appearing woman, without noticeable physical abnormalities. She appeared apprehensive, and would not speak to the physician when examined, but told a patient that the food was poisoned. She refused food for several days, but soon began eating and talking freely. In the latter part of November she claimed that she ought to be allowed to go home, but said she knew she should never go, as she heard people in the next room say she was going to be killed. She improved rapidly from this time, and in the early part of December appeared perfectly well for more than a week, after which she gradually

relapsed into her former condition, refusing to talk, and eating only on persistent urging. In April, 1897, she again began to improve rapidly, and by the end of May showed little evidence of mental disturbance, although she still seemed suspicious.

She was removed, much improved, by her husband, June 3, 1897.

On the 26th of May, 1898, she was re-committed. Her sister stated that she probably had not been entirely well at any time since her discharge. Between two and three months previously to her return she talked strangely, and tried to hire a dance hall. A week before her admission she suddenly became noisy and violent, and since that time had been alternately elated and depressed. She sang, gesticulated, and talked incoherently in French about devils and angels. Evidently had terrifying visual hallucinations.

At the time of her admission she was in good physical condition, but seemed utterly confused mentally, chattering continually in French, and paying no attention to her surroundings. She persistently denuded herself; usually seemed elated, but would occasionally weep for a few moments. Her excitement gradually subsided, with some fluctuations, and in the early part of July she was entirely quiet, but stupid; could not find her seat at the table.

She remained in essentially the same condition, at times showing a little more mental activity, until the early part of December, when she again became excited and confused. She made strange gestures with her hands; tried to walk along a crack in the floor on tiptoe; threw herself suddenly on the floor and jumped up again. In a few days she again became quiet, and said she was dreaming during the time of her excitement. Another similar attack occurred early in January, 1899. From that time she gradually improved and was again removed by her husband, February 22, 1899, apparently entirely clear in mind, although evidently somewhat demented.

Case 5. Sarah R., aged 43; married; was admitted April 17, 1898. Nothing is known of the family history except from her own statements, from which it seems evident that her father was insane. The patient was uncongenially married, and her life had been laborious beyond her strength. At the time of her attack she and her husband were employed together on a farm. For some weeks she had been noticed to be excitable and erratic in her conduct, and the family had been satisfied for several days that her mind was disordered. Two days before her admission she started to go to a neighboring village, with the intention of obtaining separate employment there, but became so much excited on the way that she had to be brought back. She talked excitedly and incoherently on religious subjects; threw money out of the window and directed foolish expenditures, and acted in such a way as to excite suspicion of suicidal intentions.

On admission she was thin and sallow, but presented no evidence of organic disease. She was in a highly excited condition, talking and screaming continually, mainly on religious subjects. When her atten-

tion could be gained, she gave relevant replies to questions. She continued to talk incoherently and to sing for several days.

On May 2 it is noted that for several days she had not talked nor fed herself, and when the attempt was made to have her move, became rigid, though she made no active resistance. She was noticed to be cataleptic on that day.

About a week later she became much clearer in mind, and conducted herself rationally. She professed to have no recollection of her arrival at the hospital, or of the events of the first two or three days following. She accused the physicians who treated her before her admission of causing her derangement by giving her ether; said that one of them was "a wolf in sheep's clothing." A few days afterward she became very mysterious in her manner. She hinted that she was destined for some remarkable mission, and would reveal wonderful things at the proper time; thought that all nations were represented in the ward; that she and one of the physicians were soldiers of the cross.

From this time she gradually improved, and in June, although still, at times, rather mysterious in her manner, she always repudiated her delusions, and seemed ashamed when reminded of them. In October she seemed to be recovered, and was anxious to leave the hospital, but was utterly unwilling to return to her husband, claiming that the trials of her married life had been the cause of her insanity, and that a return to the same surroundings would bring on a relapse. She had, for some time, done very efficient work in the sewing-room, and as at that time a seamstress was wanted, it was decided to employ her in that capacity. She has done her work satisfactorily, but on several occasions has been uneasy, unreasonably suspicious, and has shown in various ways that all was not right with her. On one occasion she said that she felt very much as she did before her breakdown.

Case 6. L. S., a woman; 25 years of age; married, but separated from her husband; was admitted July 25, 1898. Insanity among relatives denied. The patient was healthy as a girl, and was considered unusually intelligent and studious. At the age of 22 she married, to please her father, a man for whom she had no affection, and who proved uncongenial. About a year after her marriage she began to show signs of mental disturbance; accused her mother of taking her strength from her; formed such a dislike for her husband that she would not stay in the room with him; had exaggerated ideas of her ability as a musical composer. Later, she began to fear that people would steal her money.

In 1897, having been deserted by her husband, she came East to be with her mother, but returned to Cleveland twice, seeking reconciliation with her husband. She would often sit for hours staring at some object or with her eyes rolled upward. She would not eat if any one was in the room with her. At one time she imagined that her mother's house was uncleanly, and would not eat there, but ate well at her aunt's. She consulted various physicians, but would not take their prescriptions. She wandered away in the rain, and was committed to the Worcester, Mass.,

Hospital, because she would not stay at home, on the 16th of December, 1897. Two days after her admission there she became resistive and refused food. Soon became very filthy, systematically soiling her clothing and bedding. She would seldom speak; was often cataleptic; would often walk the corridor with erect carriage, mouth tightly closed, arms held stiffly at her sides, and grasping a fold of her dress with both hands. She was removed, May 18, by her mother and aunt, not improved.

She is stated to have improved physically for some time after her removal, but soon became unmanageable at home, and was brought here, as above stated.

Nothing of special importance was noted in her physical condition at the time of her admission, except a very noticeable aortic pulsation in the epigastrium. Her conduct here was much the same as at Worcester. She was cataleptic much of the time; seldom spoke; would stand, holding her skirts up with both hands and staring fixedly. She was obstinately filthy; after being kept upon the stool for a long time, would soil or wet herself immediately on being released. She occasionally wrote letters, of which the following is a sample:

" Mrs. S.

" Beg of you. Permit me to visit you."

" Dr. Sprague—

" Want to go to Cleveland immediately to-day. Give me my clothes and send me to-day. If my father knew my condition he would be angry. Mamma does not realize. Send me to Dr. J. H., 15 Afton Place, or to A. S., West Denison Ave, Cleveland. Keep getting worse. Mrs. S."

She was removed, not improved, by the Board of Lunacy and Charity, September 14, 1898.

Coming, now, to the consideration of the three questions already raised in regard to the specific character of cases presenting katatonic symptoms, in view of this series, I may say, in regard to the first, that, with one exception, to be mentioned hereafter, all the cases tabulated impress me as probably belonging together.

As to the second, my belief is that a considerable number of cases which do not present the muscular symptoms described by Kahlbaum are, nevertheless, substantially of the same nature. To present the clinical evidence for this view would occupy too much space, but I judge that it is becoming the prevalent opinion among the German alienists. At a meeting of the suedwestlicher psychiatrischer Verein at Karlsruhe, November 7, 1897, Aschaffenburg, in a paper on the subject, took the ground that katatonia was a variety of "Dementia præcox"—primary, nonsenile dementia—and in the discussion, by Sommer, Bleuler, Kraepelin, Kreuser and Vorster, no one appears to have dissented from this opinion.

With regard to the third point, my observation has led me to believe that this group of symptoms may occur in connection with, and probably as a consequence of, other well-defined morbid conditions, such as, for instance, epilepsy and general paresis. The following cases may serve as illustrations:

Case 7. H. R., a merchant; aged 34; married; was admitted July 7, 1897. A grandmother, uncle and aunt are stated to have been paralytic; no particulars furnished in regard to them. The patient was well educated, having spent two years in college, and overstudy is assigned by his friends as the cause of his insanity. About six months before admission he manifested an unreasonable dislike to his parents. About three weeks before admission he imagined that people intended to poison him; refused food; lay naked on a mattress, refusing to be dressed. At times he would balance himself on his knees, without touching any other part of his body, and remain in that position for a considerable time.

Since his admission he has shown, much of the time, a tendency to peculiar postures and stereotyped actions; sits in a stiff, constrained position; holds his hands extended, with fingers widely separated, for hours; eats his meals lying on the floor. He has been cataleptic at times. In September, 1898, he refused food for several days, and when questioned about it, said he never ate anything; never was in business; never did any work; never saw his father and mother, and did not know whether he ever had any, etc. He frequently repeats some phrase or sentence, often of a profane nature, over and over for a long time, *e. g.* "Danvers damn hospital"; "There's a son of a bitch to hell cleaned out this building."

It will be seen that he manifests the katatonic group of symptoms in rather more than ordinary completeness. Along with them, however, are other symptoms of a different nature. His pupils are unequal and sluggish; his facial muscles tremulous; his knee-jerks exaggerated; his handwriting unsteady, and, although he does not broach the subject himself, it is usually easy, by questioning him, to elicit delusions of wealth and personal importance. In short, there seems to be no reasonable doubt that he is suffering from general paresis.

Case 8. C. C., a woman; aged 29; married, but separated from her husband, was admitted October 13, 1897. Her father is said to have been intemperate, to have had two paralytic strokes, and to have died of epilepsy. The patient had led a dissolute life in regard to sexual relations, and had used alcoholics intemperately. Mental change had been noticed for about a year previously to admission. She had been very changeable in her disposition, had shown kleptomaniac tendencies, threatened the lives of relatives when they opposed her, and attempted suicide by drowning.

On admission she was fairly nourished; the tongue was tremulous, and deviated to the left; pupils were equal, but reacted slightly to light; knee-jerks exaggerated. Mentally, she seemed fairly clear, and gave a coher-

ent account of her life, but a day or two afterwards became very much confused; made absurd and contradictory statements, and was untidy and resistive. For a considerable time her condition varied with a good deal of regularity on alternate days between noisy excitement and stupidity. She showed extravagant delusions of a vague, incoherent character, *e. g.* her father, with whom she claimed to converse frequently, was going to supply her with gold teeth; she had been married many times; was going to marry one of the physicians. The latter was also going to marry two or three of the nurses, and going west to be a cowboy. Her articulation was, at times, a little indistinct; handwriting not markedly impaired.

In January, 1899, she was disposed to refuse food, and was found to have sloughs on the right heel and left instep, evidently caused by mutual pressure. She was put to bed, and has remained there up to the present time. Much of the time she is mute, refuses food, makes passive resistance to whatever is done with her, and is occasionally cataleptic; not infrequently, however, she converses freely, complies readily with whatever is asked of her, and eats heartily. Her sores have healed. For some time she kept her left hand closed, and flexed at the wrist, and for a considerable time seemed unable to extend fully either the fingers or the wrist, but now has fully recovered the use of it.

Although the diagnosis in this case is not, perhaps, entirely beyond question, it seems altogether probable that this, also, is a case of general paresis.

Case 9. C. J.; aged 31; clerk; admitted January 5, 1898. He is stated to have been subject to epilepsy since ten years of age, but first showed symptoms of insanity about June 1, 1897, when he became suspicious, imagining that people were ridiculing him, slandering him and trying to poison him. Thought he was being charged with electricity, and kept his mouth shut for fear electric currents would get in. Was mute for two or three days. At times would stand in peculiar attitudes. Later he became elated; thought he owned the whole world, and had authority over every one.

A few days after his admission he refused food, alleging that it was poisoned. After five days' abstinence he was fed with a tube, making no resistance, and soon began to eat voluntarily. Not long afterwards he was found, one morning, profoundly cataleptic, and remained so for some hours. On another occasion he spent some time in throwing his slipper into the air with his toe, and trying to catch it. At one time he sat with his trousers rolled above his knees. None of the motor symptoms of katatonia have been noticed for several months past. He had delusions of personal importance, with a religious tone. Some time ago he announced that a flood was coming on January 8th, and that the hospital building was the ark. After the date fixed had passed, he explained that such had been the intention of the Almighty, but that he had changed his mind. His convulsions occur, on the average, about once a month.

I recall two other epileptic patients who were in the habit of assuming characteristic katatonic attitudes.

The three cases last described seem to show either that two distinct diseases, affecting mental activity, may co-exist, or that epilepsy and general paresis may give rise to katatonic symptoms. Although the possibility of the former supposition cannot be denied, it seems hardly probable that two such diseases should coincide in the time of their outbreak, as seems to have been the case with the two sets of symptoms in one, at least, of the patients.

It seems to me justifiable to conclude, provisionally, that the katatonic symptom-complex may occur in a variety of morbid conditions, although it is by far most common in the class of cases to which Kraepelin has applied the term " Dementia præcox." In their bearing on prognosis, such symptoms must be considered at least relatively unfavorable, although long-continued remissions certainly occur, and it hardly seems justifiable, at present, to deny the possibility of complete and permanent recovery. It is quite possible that cases of recovery may, in reality, be pathologically distinct from others that resemble them in their symptoms.

With regard to etiology, the rather common occurrence of sudden remissions seems to me unlike what might be expected if the symptoms were due to auto-intoxication, which Kraepelin is disposed to assume as the cause of the symptoms. The striking resemblance of many of the more prominent symptoms of this condition—catalepsy, stupor, mental bewilderment, illusions and hallucinations—to phenomena that can be artificially induced in the hypnotic state seems to me suggestive of the possibility that they may have something in common in their causation.

Whatever may be thought of the propriety of classifying cases presenting these symptoms separately from others with a like tendency to dementia, it seems to me entirely unsatisfactory to class them with cases of acute mania and melancholia because they happen, on the day of admission, to be elated or depressed. As a practical matter, the recognition of the motor disturbances here considered warrants a different prognosis, both as to the course of the disease and its ultimate outcome, from that of

either mania or melancholia properly so-called. In diseases of which, at present, we know neither the cause nor the cure, it is a satisfaction to be able to foresee their course and termination, and a proper classification is a necessary prerequisite to any fruitful study of pathology.

TETANOID SEIZURES IN EPILEPSY.[1]

By L. PIERCE CLARK, M. D.,
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In looking at the pathological physiology of epilepsy, we see no reason why, in the liberation of energy in nerve cells of the cortex, it should not be sudden and complete, giving us a tonic spasm only, but clinical experience does not carry out this logical conclusion. The muscular convulsion in epilepsy cannot be divided into distinct varieties, such as clonic or tonic spasm; the one is only a modification of the other, differing in degree and not in kind.

In a thousand or more of epileptic seizures I have personally witnessed at the colony during the past three years, I think I can count upon the fingers of one hand the cases in which the tonic and clonic spasms were not both present in some degree. It is a frequent observation to see one or the other predominating. No attacks except the ones about to be reported in this paper in the record of over 200,000 have been exclusively tonic and could be classed as tetanoid in clinical appearance.

There may be some confusion in using the term "tetanoid epilepsy," as first described by Prichard, so I have used the title of "Tetanoid Seizures in Epilepsy." I doubt very much if such convulsions are always present in a single case or even predominate sufficiently to warrant a clinical entity of the disease of epilepsy.

Again, the term is rather unfortunate in leading one to think that there is a possible connection in the etiology of the two diseases—tetanus and epilepsy. I do not believe any clinical observer of the subject of the title of this paper ever intended to be quoted as holding such views. Notwithstanding this fact, some writers, in the light of toxics, autotoxics, etc., have endeavored to

[1] Read before N. Y. Academy of Medicine, Feb. 24, 1899—Section Neurology.

draw parallels of cause and effects between the two diseases. Further comment upon the absurdity of such an inference is unnecessary, it being so well known that widely different pathological states having different etiologies may manifest themselves at times in an analogous manner.

Some cases of epilepsy almost indissolubly mixed through and through with isolated hysterical phenomena may present muscular contractions simulating tetanoid seizures in epilepsy. The clinician should be fully aware of such. Observations upon the temperature, pulse and cutaneous sensations following the convulsions will aid materially in classifying these seizures.

Another point worthy of attention in the text to follow is to note the meager and loose statements made in regard to such seizures in epilepsy and the paucity of clinical cases illustrating them. The fact is, it is not only uncommon but very rare.

General Summary on Tetanoid Seizures in Epilepsy and so-called Tetanoid Epilepsy.

After having reviewed the twenty volumes of the Index Medicus and Surgeon-General's Catalogue, and the leading writers on Neurology, Epilepsy, Medicine, Clinical Medicine, etc., it becomes apparent that there is no literature at all on the subject of tetanoid or exclusively tonic epilepsy. As far as may be told, there is not a single special article or monographic study upon the subject.

It is a curious fact that Prichard may have been influenced by wrongly estimating the sense in a passage of Hoffman's work on Practice. In this passage Hoffman begins by describing clonic convulsions in epilepsy. Then he devotes a line or two to exclusively tonic contractions. Then he finishes the paragraph by further clinical data which apply really to the ordinary paroxysm or to epilepsy in general, but Prichard clearly understood him to apply these phenomena (seminal emissions, etc.) to the tonic form alone, which is far from being what is intended.

Now Hoffman is the only authority which Prichard cites on this point and as this authority is based on a misconception, it is evident that the historical evidence of a well-marked exclusive tetanic epilepsy could not have been extensive, otherwise Prichard, being a very scholarly man, would have quoted other authorities.

Most writers since Prichard seem to take it for granted that the tonic stage necessarily begins the attack. This being the case, some of them understand that an abortive seizure might not go beyond a slight rigidity, or on the other hand, the tonic stage might be severe enough to carry off the patient by asphyxia. That there is any real difference between tonic and tetanoid epilepsy does not seem to occur to them at all.

Nevertheless, Prichard and Gowers try to make a good case for an independent clinical variety of tetanoid epilepsy, and the few writers who give any space to this variety seem to rely more on the authority of Prichard, by saying "as described by Prichard," and the like, than upon any experiences of their own. It is not difficult to tell when a man is writing hearsay and when he is describing what he has seen. The usual way of putting the matter is to say that "a short tonic stage precedes the clonic convulsions, but either stage may be absent." No distinction is made, as a rule, between mild or abortive and severe, asphyxiating tonic convulsions. Other writers ignore any separate tonic form, while others expressly deny its existence.

Cases of Tetanoid Seizures in Epilepsy.

Prichard (Dis. Nerv. Syst., 1822, p. 108) gives the following case:

Sarah P., age 9. First seen February 9, 1821. Three years earlier had severe whooping-cough which brought on fits of tetanoid epilepsy. When seized with these fits she became stiff and her limbs were stretched out and fixed. She suffered for four months. Two years later weakness and partial paralysis of right side came on suddenly and was followed soon by spontaneous improvement. Three or four months before admission she began to be troubled by involuntary jerking motions of the limbs of the same side. After admission she had fits of vertigo with falling to the ground. Discharged cured April 13.

This case is by no means above suspicion of being something else than true epilepsy. The fact that it came on after whooping-cough and recovery took place promptly, are both militant factors against it being more than epileptiform at best.

Gowers (Epilepsy, 1881) describes a tonic fit in a boy. Head

first turned to right. Then arms extended and rigid, the right more abducted from the body than the left. Both elbow joints then flexed, fingers flexed in the interosseous position. In a few moments the spasm ceased, lasting a little longer in the hand than elsewhere. No clonic spasm. He also had more severe attacks consisting only of tonic spasm, but in them the arms were raised above the head, there was foaming at the mouth and the tongue was bitten. He states that severe tonic fits (tetanoid epilepsy of Prichard) are not common.

It would seem in this case of Gowers', which I have given in abstract, that he does not state nor imply that the tonic or tetanoid attacks were the only ones present. This case is one of classic epilepsy. He also recognizes the comparative rarity of the condition as complicating ordinary fits.

Herhold (Deutsch militär Zeitschrift, 1888) gives a case of epilepsy complicated with what he calls tetany, but upon reading this over it is found to consist of true epilepsy associated with a local tonic spasm of the arm. It does not seem to be a true case of tetanus, nor a proper one to class as tetanoid in the general sense of this paper. I have no doubt in a true complication of tetanus the epileptic seizures would remain distinct clinically or be absent altogether, as is so frequently seen in acute febrile processes such as typhoid fever.

Remarks on Tetanoid Seizures in Epilepsy by Various Authors.

Hoffmann, English ed. on Practice, 1783, Vol. II, p. 2, the only one of his predecessors quoted by Prichard (by the way, he quotes him wrongly) says, after describing the usual clonic convulsions, that "others grow stiff and immovable as a statue."

Prichard [Dis. Nerv. Syst., 1822, Chap. III (general description of epilepsy)] divides the disease into convulsive and tetanic. The latter, "the less frequent or tetanic form, is distinguished by sudden fits of coma or loss of sense and consciousness without convulsion, but attended with a tonic spasm of the system of voluntary muscles; the whole trunk becoming during the fit rigid and inflexible."

After a description of ordinary clonic epilepsy, he says "the paroxysm of tetanoid epilepsy is similar in some particulars to

the preceding. The patient is seized suddenly; his limbs are stretched, and the whole trunk is extended and fixed by a rigid spasm; the eyes widely open, not reverted, but staring frightfully; pupils contracted and insensible to the strongest light. The convulsive and tetanoid forms are closely allied and fits of both kinds may attack the patient within a few hours."

Delasiauve, in his monograph, 1854, criticises his colleague Herpin for holding that tonic and clonic epilepsy may occur separately.

Jones (Funct. Nervous Dis., 1870) alludes to a modification of the convulsive paroxysm, which is "very perilous and fortunately very rare." It sometimes happens that the tonic contractions of the muscles which at the onset of a fit hold the thorax and abdominal walls in a state of tetanic rigidity, persist for an unusually long time. Instead of lasting for 15-30 seconds, this tonic contraction may last for two or three minutes and the patient may die of asphyxia in the same way as in tetanus and strychnia poisoning. Trousseau states a case of this kind, but I was not able to find it.

Grasset (Malad. du. syst. nerveux, t. II, p. 634, 1879), after describing the tonic stage of ordinary convulsions, says "sometimes it is the sole manifestation."

Gowers (Epilepsy, 1881). Although most attacks of epilepsy consist of both tonic and clonic spasm, in some fits there is but one form of spasm. As a rule, those which consist only of tonic spasm are general fits of slight severity. A patient falls unconscious, is rigid for a few moments and then is better. Occasionally more severe attacks consist only of tonic spasm.

Féré (20th Century Practice, 1897) says either stage (clonic or tonic) may be absent, or the clonic may precede the tonic. Sometimes the attack consists of simple rigidity without movements. He cites no cases to prove his statements.

Oppenheim (1897) does not mention tetanoid seizures in epilepsy at all.

Author's Case Showing Tetanoid Seizure in Epilepsy.

W. R., age 20; single; eldest in family of three children. Mother and two sisters had sick headache and periodic neuralgic attacks for years. Mother also had chorea in childhood. Pa-

tient had complete right hemiplegia at four or five years of age. He had pavor nocturnus throughout infancy. He has led an irregular life, using tobacco to great excess. His epilepsy began at sixteen without immediate exciting cause and has continued to grow worse ever since. The seizures have occurred about as frequently by night as by day. For the past two years they have had a marked tendency to group themselves in serial attacks.

Physical examination shows an exceptionally strong physique; muscles very well developed, slight paresis of right side remaining. Mentality shows the common condition of epileptic weakness.

Patient was admitted December 11, 1897, to the Craig Colony for care and treatment.

October 31, 1898, from 8.40 P. M. until 11.10 P. M., patient had a series of tetanoid spasms. The spasm came and went with considerable regularity, about three occurring every five minutes, then a free period of five minutes. One tetanoid fit occurred at 7.40 P. M., to be followed by classic *grand mal* seizures of epilepsy until 8.40. From the onset the patient remained comatose; between attacks he remained in a period of stertor and snored as loudly as a patient in ether narcosis, so loudly that the lower jaws had to be thrust forward as in giving an anæsthetic. This act materially aided the patient in his efforts to regain lost ground in the non-respiratory part of the fit.

The attacks came on preceded by the premonitory signs of an expectant, listening attitude, during which the respiration was suspended. The head was first slightly rotated to the right and then decidedly to the left. Then the spasm passed rapidly over the entire body, apparently bi-laterally from head to foot in a wave-like manner. All the muscles were in tonic rigidity each time for fifteen to twenty seconds. The back was well arched as in tetanus, giving a striking resemblance to Bell's picture of the disease, but of course not as marked as in his well-known overdrawn picture of the opisthotonic muscular contraction.

I was able, by placing my fingers under the ankles, to lift the entire body from the floor, the upper end resting on the occiput. My hands were placed over the entire body at different times in different attacks, and it was found that the seizures maintained their same general tonic tetanoid character throughout. The feet

PHOTOGRAPH OF W. R. (TETANOID EPILEPSY.)

were extended and arched, the toes being flexed. The hands underwent slight external rotation without being clenched. No clonic spasms appeared from 8.30 to 11.20, the end of the serial period. The patient generally, prior to this observation, has had typical *grand mal* fits, of which the following is an abstract of one witnessed by myself: A low moan (a truer word phrase than epileptic cry) preceded the deflection of the head to the right two or three seconds; then the body rotated six times to the right before the patient fell. General clonic spasm occurred as soon as he struck the floor. Involuntary defecation and urination followed the muscular spasm. Tonic period about ten seconds; clonic, thirty seconds; stertor one minute, followed by deep sleep for one hour.

The patient is very muscular in spite of the fact of an early cerebral palsy of the right side, traces of which are still present.

It was very interesting to observe the rapid disappearance of the muscular rigidity when the spasm ceased in this tetanoid variety of seizures. The muscular rigidity seemed to melt beneath the grasp and the body would then be as limp as the cadaver after post-mortem rigidity has passed. The graphic chart is submitted with this clinical study. The body at all times in and out of the spasm remained in nearly the anatomical position when not distinctly specified to the contrary in the above text.

For weeks the patient had been free from the use of bromide in order to use them with the greatest possible effect when his series appeared. The bromides were given in drachm doses every two hours after seizures began to appear frequently, until 180 grains were given. When it was impossible to get him to retain it by enema (the violence of the tetanoid seizures often caused an expulsion of the enema) the bromides were given frequently by hypodermic injection. It will be seen by reference to the graphic chart that the clinical condition as a whole was that of status epilepticus. On November 1, when the second series became frequent and severe again, the anti-tetanic serum of Parke, Davis & Company's preparation was given with no apparent effect.

I doubt much the efficacy of any of the medications in this case aside from the bromides given hypodermically. The sites of these injections were massaged to facilitate their absorption by

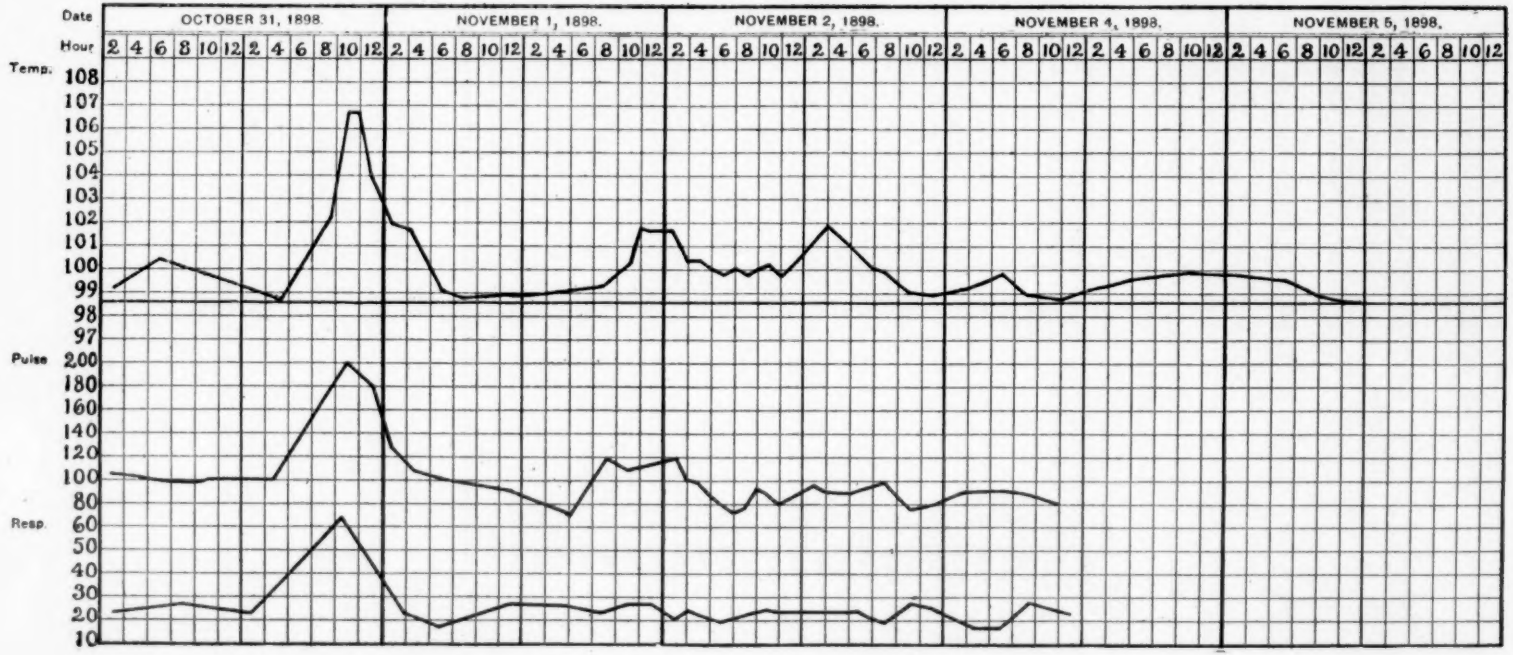
the circulation. All bromides and general medicines for the status period should be given by such methods. All bodily processes are at a standstill, and absorption by mouth and rectal enema is probably very small.

At the period of tetanoid seizures, October 31, the heart's action was plainly audible many feet away, so intense was its overburdened activity. Deep cyanosis was present, cumulative until the end of the series at 11.10 P. M. Death must have been the end soon, if the attacks had not ceased at such time. As it was, the patient was completely exhausted for six days. On second day, November 1, there appeared on the left cheek a confluent papular eruption (Herpes facialis) extending about two inches on upper and one and one-half inches on lower jaw, and also reaching within about one-half inch of corner of mouth. There were also several isolated papules along borders of lips and on opposite corner of mouth. November 2d and 3d were passed for the most part in sleep. When aroused, the patient showed delirium. Delusions as to identity and surroundings were present for two weeks. At the end of this time patient resumed his usual interparoxysmal state.

Two months after the status period, composed in most part of tetanoid seizures, the patient had another series which finally ended in status, exhaustion and death. Graphic chart and other data of this period are presented. The seizures immediately preceding this fatal period were not severe at the beginning. The forenoon and afternoon of the 26th of December were passed in out-of-door sports, in ice skating. At 3 and 4 P. M. of this day he had several slight attacks termed fainting spells, and after having had ten of these he was placed in bed for more careful attention. At 6.30 P. M. he had 20 gr. of chloral and 30 gr. of potassium bromide. Again at 8 P. M. he was given 20 gr. more of chloral, but this in no way interfered with the increasing frequency and severity of the epileptic fits which, throughout the entire period, were regular *grand mal* fits, first tonic, then clonic spasm, without distinct order of invasion. The attacks, sixty-two in all, were far less severe than the tetanoid period, and yet exhaustion and death quickly supervened.

As I have contended in other places, the muscular spasm not infrequently fails to indicate by its type or severity the amount

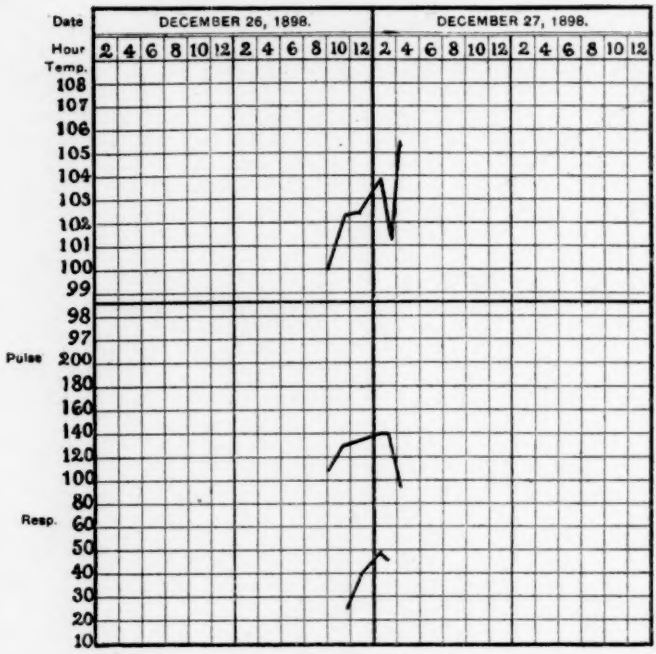
W. R.—CASE SHOWING STATUS EPILEPTICUS COMPOSED IN GREAT PART OF TETANOID SEIZURES.



of cerebral exhaustion that has taken place. The patient died at 3.05 A. M., December 27. Respiration ceased 1½ minute before the heart ceased its action, a phenomena infrequently noticed in status.

Autopsy held sixteen hours after death showed the membranes of the brain in external appearances normal; the longitudinal

W. R.—CASE SHOWING STATUS EPILEPTICUS TERMINATING IN DEATH.



sinus was completely empty. External aspect of brain proper was very dry. Section of brain substance showed a decided blanched, porcelain appearance common in status cases. All organs of the chest were normal. Heart presented left ventricular hypertrophy; it was in diastole. The organs of abdominal viscera were all engorged. No infarcts were found save in the spleen where one was located centrally; spleen double normal size.

The brain has been preserved for microscopic examination of a thorough and exhaustive nature to be given in a separate report.

In conclusion, we find these statements to be borne out by this study:

1st. The exclusive tonic convulsions of *Petit Mal* epileptic fits are not identical with tetanoid seizures.

2d. Tetanoid seizures are clinical facts, although very rare; but a distinct classification of epilepsy, the so-called "Tetanoid Epilepsy" of Prichard, is not proven.

3d. Tetanoid seizures are but a modification of true epilepsy and probably have no relationship to tetanus.

INTERMITTENT MENTAL STUPOR.

By H. S. NOBLE, M. D.,
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Physicians who spend a number of years in an asylum for the insane are struck by occasional anomalous cases which do not fall readily into any of the systems of classifications which are in vogue, not only in institutions, but in societies whose object is the study of mental disease. Belonging to this class are undoubtedly the occasional cases of stupor, intermittent and otherwise.

In the spring issue of *Brain*, in 1895, there appeared a report of four cases of stupor by Dr. James R. Whitwell of the West Riding Asylum, from the study of which he deduced certain conclusions as to causation, which, however, may be said to be like the Scotch verdict, " not proven." He claims that a study of the cases of so-called mental stupor has shown that there is considerable weight of evidence in favor of the theory that certain of these cases may be due to a want of normal proportionate development in the circulatory and nervous systems; that the want of due ratio in time of development of the two systems leads to nerve cell mal-nutrition and consequent imperfect mental action; that, in fact, while the brain reaches the degree of development normal to the age, sex and physique, the blood-vessels, and frequently the heart, remain in a puerile condition, the aorta and other blood-vessels throughout the body, therefore showing a congenital narrowness, associated in some cases with a congenitally small heart. If this condition be only temporary, and under proper stimuli the normal vasculo-cerebral proportion is finally brought about, the patient eventually recovers from his stupor. If, however, this equilibrium is not established, the case sinks into dementia and is either carried off by some intercurrent acute disease, or, as is frequently the case, develops phthisis. Dr. Whitwell reports four cases of this condition of stupor, two

of which died and the third passed into dementia. These, so far as I know, are all the cases of which the literature of medicine affords any detailed account. In the first case the sphygmograph showed a high arterial tension, and the aortic second sound was accentuated. The second case was of twelve years' standing, and finally died of phthisis in a profoundly demented condition. It will be observed that, in the cases of stupor just mentioned, the interesting feature of intermittency is wanting. The same writer, however, reports in his article one other case of stupor in which intermittency was a marked feature, and which he likewise attributed to the same disproportion between the circulatory and cerebral systems. The salient points of the case are as follows:

He was a clerk, aged 23 years, when admitted. He first showed mental symptoms at the age of 17, and was confined in an asylum in Germany for about a year. Later he was committed to the Netley Hospital for a similar condition. The two previous attacks were said to be, in all essential particulars, the same as the third one for which he was under treatment when his case was reported. On admission he was in a condition of profound stupor, standing in one position with head bent down, and saliva dripping from his mouth; took no notice of anything going on around him, but with sufficient additional stimulus could be made to move a little. His limbs, when placed in peculiar attitudes, slowly changed their positions in accordance with the action of gravity, but not to the principle of comfort. This condition lasted for 30 hours, and then the patient became bright, intelligent, talkative, interested in his surroundings, and fairly keen in work, games and pleasure; this lucid period lasted 12 hours, the patient again lapsing into profound and typical stupor. This markedly intermittent condition was shown by an hourly chart which was kept nearly a year and a half, when dementia gradually came on, and the case ceased to be interesting. Physically, he was well-built and muscular, and upon admission his heart was found to be somewhat hypertrophied, and the aortic second sound accentuated the same as in the cases of stupor previously referred to. In this case, likewise, there was strong hereditary taint. In this latter case some light was thrown upon the relative condition of the vascular system in states of lucidity and stupor by sphygmographic examinations. Tracings were

taken during periods of stupor, during the awakening period, and during periods of lucidity. These tracings showed invariably, during the periods of stupor, a high tension, indicative of peripheral resistance, while during the lucid period this was completely relaxed, giving rise to distinct dicrotism. The tracing for the intervening period, of course, showed a character midway between the two. To speak a little more fully of the pulse tracings we may say that at first sight they would appear to indicate a very weak and feeble pulse. It was certainly small, but was only weak and feeble in that the fluctuations of the vessel were comparatively small, and the variations in its bulk and volume were only within narrow limits and gradual. The line of ascent was short and sometimes very oblique, the latter being masked by its shortness. The apical angle was wide and the line of descent gradual; the dicrotic wave and aortic notch were usually almost absent, and there was frequently a pre-dicrotic wave present which tended to blend with the apical angle to form a plateau, probably owing to the feebleness of the cardiac factor. In fact, the tracings indicated difficulty in the peripheral outflow and diminished vigor of ventricular contraction. In this case of Dr. Whitwell's the stage of stupor predominated over that of lucidity in the proportion of almost 3 to 1. With the exception of this case I am unable to find any others reported. It cannot be that they are numerous, as Dr. Whitwell goes to some length to establish mental stupor as a pathological entity.

Dr. Whitwell would, therefore, explain his case on the theory that it is an intermittent form of stupor caused by, or associated with, temporary spasm of the peripheral vessels during the period of mental stupor, this spasm relaxing during the period of lucidity. It seems to me, however, that the pathology of the condition is further back; that the same cause operates to produce both the stupor and the spasm of the peripheral vessels, and is probably of an emotional character. We know that under influence of certain emotions the capillary vessels are sometimes relaxed and sometimes in a state of spasm. For instance, under the emotion of fear the capillary vessels are strongly contracted and the blood being forced from them the person is said to be pale. Under the influence of shame the vessels are dilated and the individual blushes. May it not be that in cases of intermit-

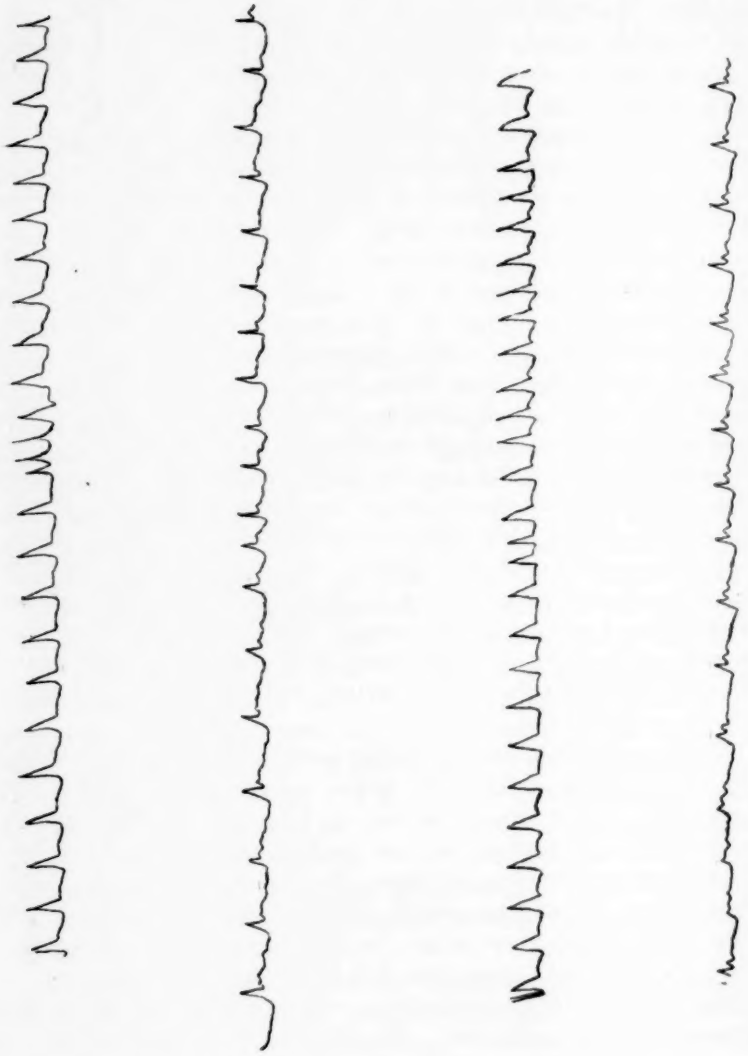
tent stupor we have a powerful emotional factor which operates and ceases alternately, and thus produces the phenomena in question?

At the Connecticut Hospital for Insane we have had, during my service of about 15 years, one such case, that of I. M., admitted February 12, 1895. He was a Polish Jew, 26 years of age, a clerk, well educated, temperate, and recently married. His disease was reported to have been of six or seven weeks' duration, and to have come on as a result of domestic trouble. This was said to be his first attack. The history of his case given upon admission was in marked contrast to anything observed at any time during his residence at the hospital. Nothing could be learned of his family history. Up to the date of admission he was said to have been extremely destructive, and subject to sudden violent impulses during which he would seize anything which chanced to come within his reach and maintain his grasp as long as he was able. He would not speak, but was restless and noisy at night. His appetite was good, and he was neither suicidal nor filthy. He had recently been cared for at the almshouse, and had, therefore, been under pretty constant observation. Four days after admission his brother called and gave the following additional history. He stated that I. M. was married 18 months ago and found himself impotent, much to his horror. This led to domestic trouble, and he and his wife separated, and she soon after gave birth to a child. Some time during the previous summer the patient was taken ill, but the nature of his disease could not be ascertained, and in June he went to the Hartford hospital for treatment, and remained for several weeks, but mental symptoms having in the meantime supervened, he was transferred to the almshouse. His brother attributed his insanity to his domestic troubles. Since admission he had taken only one meal voluntarily, and it had therefore been necessary to feed him with the nasal tube in order to sustain life. Six days later he began eating voluntarily, but would converse with no one, not even to the extent of answering questions. He sat with head bowed and eyes closed the greater part of the time, and showed no interest in his surroundings. On March 25 he wrote a letter to his brother inquiring as to the health and whereabouts of his relatives, and announced that he had lost the power of

speech. On June 3, having abstained from eating for several days, recourse was again had to the nasal tube. During the month of July the peculiar condition of alternating stupor and lucidity developed for the first time in the history of his case. At first the stupor came on with great regularity every second day, so that his time was about equally divided between stupor and lucidity. On his lucid days he wrote intelligent letters to his relatives, conversed rationally and cheerfully, and the keenest scrutiny failed to discover anything abnormal in his mental processes. During the stupor he showed a cataleptoid condition, and maintained a constrained and unnatural attitude for hours, with his eyes closed, saliva dribbling from his mouth, and was totally oblivious to any ordinary external stimulus. Recourse was had to inhalations of ammonia and ether, and on one or two occasions the Faradic current was employed for the purpose of rousing him from stupor, but all to no avail. Urine and feces were passed in his clothing; and swarms of flies on his face and about his eyes, nose and mouth were wholly unnoticed. The transition from one state to the other was abrupt. At 10.30 in the morning, for instance, he was in a state of profound stupor as just described, while half an hour later he was bright, cheerful, active and intelligent. During the month of July the proportion of time spent in stupor gradually increased. As the case had assumed unusual and interesting features, a daily record was begun on July 30, 1895, in which were noted the hours spent in each state, his pulse, temperature and respiration, and what he ate, said and did.

Sphygmographic tracings, which were made and photographed by Dr. Coleburn during both states, form a valuable part of the record. I would remark in passing, however, that the tracings in this case bear little resemblance to those obtained by Dr. Whitwell, as they show a much more powerful cardiac action. After a period of two or three weeks, instead of the time spent in the two states being about equal, the stupor began to predominate, and he would often spend two days or two and a half in a stupor; moreover, the regular periodicity, which was at first a marked feature, was gradually lost. As what has already been said will serve to give an adequate idea of his behavior from the time the stupor began until August 1, we herewith subjoin some extracts

from the record beginning with August 1. I may remark that up to this date observations had shown during his stupor a varia-



tion in his pulse rate from 56 to 72, and in temperature from 96.6° to 98.4°, but respiration was always found to be normal.

August 1. He was in a stupor during the entire day.

August 2. He was lucid from 11 A. M. till 7.30 P. M. For dinner he ate fish, bread and potatoes, cucumbers and pie, and drank one pint of milk. For supper he took bread and butter, cake and dried beef, and one pint of milk. During the lucid interval he occupied the time in writing a letter and reading newspapers. When asked to explain why it was that he remained in a stupid state a longer time than formerly, he said it was because "he did not receive any encouragement that he would get well again." He also said that if he "could be convinced that he could be at home on the Jewish New Year's Day he would make an effort to do what he was told." He stated that he "got very hungry during the stupor, but some instinct told him not to eat, as food was not a necessity when he was not working." He did not regard milk as food, but stated that he had seen "typhoid cases go for weeks without taking anything but milk." He thought that whisky and wine would be a help to him. He claimed that when he is in the stupor he understands everything that is said to him, but something tells him not to answer; also that when any one comes near him he feels as though they would do him harm. On being asked if he ever took his wife and child into consideration, he said he did not, as they were well cared for. Temperature 97.6°, pulse 70, respiration 18.

August 3. He remained in stupor all day with no sign of awakening. Temperature 98.6°, pulse 64, respiration 18.

August 4. He was lucid from 7.30 A. M. till 7.30 P. M. The first symptom of awakening was putting his hands over his eyes, and then occasionally opening them. When urged to drink some milk he opened his eyes widely, drank the milk, and was then entirely lucid. For dinner he ate bread and butter, meat, peas, pie, and drank one pint of milk. For supper ate bread and butter, cake, prunes, and drank one pint of milk. During the day wrote a letter, read the papers, and walked about the ward. He said very little to any one, except to express a desire to be at home, believing a change of surroundings and work would bring about a speedy cure. Temperature 98.6°; pulse, A. M., 60; P. M., 84; respiration 18.

August 5. He was in a stupor all day. Twice he stood on

his feet and remained so until placed in a chair. Temperature, pulse and respiration same as the day before.

August 6. He had a lucid period from 7 A. M. till 7.30 P. M. He awakened at the breakfast table when asked to eat. He took for breakfast hash, bread and butter, drank coffee and one pint of milk; for dinner, ham (although a Jew), potatoes, pudding, bread and butter; for supper, oatmeal, cookies, bread and butter, and drank tea and one pint of milk. He spent four hours in the open air, part of the time in reading, and a part of the time in idleness. He had little to say and seemed somewhat depressed.

August 7. He was in a state of profound stupor all day. He wet his clothing frequently.

August 8. He had a lucid interval from 7 A. M. to 7.30 P. M. His first sign of awakening was by placing his hands over his eyes. When taken to the breakfast table he opened his eyes and ate heartily of ham, potatoes, bread and butter, and drank coffee and one pint of milk. At dinner he ate soup, beans, bread and butter, and milk as usual. He spent four hours in the open air, and was active in moving about. While in the ward he wrote and read papers, but had little to say.

August 9. He was in a stupor all day. About noon a peculiarity was noticed in his pulse. For 30 beats it would be full and strong, but for the next 30 beats it would be small and feeble, the rate remaining unaltered.

August 10. He arose this morning with his eyes open, but would not speak for an hour or more. After this he was lucid, and spent two hours in the open air. He spent the remainder of the day reading and conversing upon current topics, which he was able to do intelligently. At 6.30 P. M. he closed his eyes, placed his hand over them and went into a state of stupor.

There is little variation in the record from this date until September 19. During his lucid intervals on some days he was cheerful, animated, and talkative, while on others he was taciturn, depressed, and inclined to avoid the society of others.

September 19. He was lucid and active from 5.30 A. M. till 7.30 P. M. To-day he was asked if he was aware of, or could recollect, what took place during his periods of stupor, and he admitted that he could not. This had been my own belief during the entire course of the disease, because when urged to do so

on a previous occasion when he claimed to be aware of what transpired during his stupor, he was unable to recall anything, and an incident which occurred later in the history of the case confirmed that belief beyond all question.

September 20. He was in a stupor all day. He fell from his seat twice, and each time remained on the floor until lifted into a seat.

September 27. During the forenoon he opened his eyes twice, but again relapsed into stupor and did not become lucid until 2 P. M.

September 30. During his stupor, which was profound and lasted all day, he dropped out of his seat and fell on the floor five times, and threw himself out of bed twice, remaining on the floor each time until lifted back by the attendants.

From this time until December 1, his record shows little variation. He would often be put to bed in a stupor, and in the morning get up and dress himself as if it was the habitual thing for him to do. Again, he would be about the hall bright and active, and an hour later would be found standing behind a door or lying on the floor in a profound stupor. Many times he was carried into the dining-room in an unconscious state and seated at the table, and after a short time he would place his hands over his eyes, open them, regain intelligence, and commence eating. Attendants sometimes found it hard to believe that his periodical stupor was not voluntary.

December 5. He passed into stupor and remained in that state until the morning of the 13th, when he arose and dressed himself as if he had gone to bed as usual the night before. During this time, the first prolonged period of stupor which occurred without interruption, he was fed regularly with the tube.

On January 13, 1896, he was taken home by his friends at his earnest solicitation in the hope that the change might benefit him. He gained nothing, however, by the change of surroundings, and was returned to the hospital April 27. His friends were able to keep him at home but a few days, he was such an intolerable nuisance, and they therefore soon committed him to the Hartford Retreat. Upon his return to this hospital the alternating periods of stupor and lucidity continued the same as before.

July 11, while out in a grove near the North Hospital, he attempted to escape when unobserved, and slipped away into the underbrush. His absence was soon discovered and search made for him. He was found about 200 yards away in a condition of stupor, which had overtaken him during his effort to escape. This would seem to dispose of the theory that his states of stupor were assumed or voluntary.

On August 10, it was noticed that he seemed to be able to postpone his stuporous attacks if promised for his next meal some dish of which he was particularly fond. He was extremely indolent and soiled his bedding rather than rise during the night. He received warm baths every morning with cold douches along the spine and objected to this therapeutic measure.

September 23. During the past fortnight there has been no recurrence of stupor during the day, and he has eaten all his meals. From this time until December 10, his progress was not interrupted by anything like stupor. He gained flesh until he weighed 186 pounds, and was uniformly bright, cheerful, intelligent and industrious.

December 14 he was discharged from the hospital apparently well. I had a letter from him a short time after his return home which is as follows:

"DEAR SIR:

"As Dr. Coleburn, of the North Hospital, has told me, when I left same place, that you would like to have me write you about myself, how I am getting along in health, so I have the pleasure of informing you, dear doctor, that I am improving gradually in health and strength, and I hope that in the course of time I shall become as healthy and as strong as I was before. I have been told that I need to have a good deal of out-of-door exercise, although I do not feel like it; the least exercise makes me tired, and I get easily tired after walking a good long distance. My sleep is not very good, that is, I generally do not feel well during my sleep, and have bad dreams, of that kind as though I have got to get to some destination and cannot on account of feeling tired and not having strength enough to get there. I am working in a dry goods and clothing store as a book-keeper, and I am getting along fair.

"Very respectfully yours,

I. M."

I wrote the young man on April 25, 1898, regarding his health, and received the following reply:

"DEAR DOCTOR:

"Your favor I duly received, and was delighted to find such high-esteemed man like you taking an interest in me. I am pleased to inform you, dear doctor, that I have been in good health ever since I left the hospital, thanks to your kind and successful treatment and the other doctors. I am working at present as book-keeper and cashier for a wholesale produce concern, and am getting along fairly well, although my wages are small. I am all right and my wages are sufficient to keep me in good order. I have continued entirely free from that trouble for which I was under treatment at the hospital. I thank you very much, doctor, for your taking an interest in my welfare now, as well as at the time of my stay at the hospital, and I duly appreciate the honor of same. Hoping this finds you, doctor, in the best of health, I remain,

"Very sincerely yours,

I. M."

This closes the history of a case which to me was one of the most interesting I ever encountered, not only on account of its uniqueness, but on account of its happy termination. The points of difference between this case and that of Dr. Whitwell have been suggested. The sphygmographic tracings are totally unlike, except in one instance. In my own case there is little indication of cardiac weakness, although the tracings in different periods of stupor varied widely. In none of them, however, was there to be observed that widening or plateau-like appearance of the apices mentioned by Dr. Whitwell.

Dicrotism was not usually present, but the line of ascent was always abrupt. One of my tracings bears quite a resemblance to those obtained by Dr. Whitwell, but even in this there is no broadening of the apical angles. I cannot, therefore, concur in the opinion that intermittent stupor is due to a disproportion between the vascular and cerebral apparatus. To what particular pathological condition this peculiar phrase of mental disease owes its origin I will not undertake to say, as it does not seem to me that a sufficient number of cases have yet been observed and studied on which to base a theory.

SYMPTOMS FOLLOWING LUMBAR PUNCTURE IN TABES DORSALIS.

By WARREN L. BABCOCK, M. D.,

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The relief of intra-cranial pressure by lumbar puncture in general paresis and subsequent improvement in the ataxia of several cases so treated, suggested its experimental trial in tabes dorsalis. The main indication for puncture in paresis, heightened intra-cranial pressure, is not often present in tabes. Of the cases reported herewith the first, only, gave evidence of an excess of cerebral-spinal fluid prior to the puncture. The operation on second case was performed in order to ascertain if the symptoms developing after puncture, would establish the diagnosis, while the third puncture was entirely experimental.

Several explanations have been advanced to account for the improvement in gait following puncture in well-advanced cases of paresis. The three following seem to be the most plausible: (1). By simple mechanical relief of the pressure to which the co-ordinating centers are subjected by the compensatory fluid of the second or third stage.[1] (2). By improvement in the circulation of the motor centers of cord, medulla and cortex, due to lessened intra-dural tension. (3). One well-known theory supposes that the ataxia of the third stage is due to diminished inhibitory power of the cerebral cortex. Relief of pressure, by puncture, and consequent improvement in the circulation of the cortical arterioles, may establish, temporarily, the inhibitory functions of the higher centers.[2]

Paracentesis of the spinal dura is a procedure presenting few difficulties or dangers. After the experience obtained by three or four punctures the operator can enter the dura with needle in

[1] Turner, British Medical Journal, May 2, 1896.
[2] State Hospitals Bulletin, Vol. I, p. 352.

less time than it takes to describe the operation. The following instruments only are essential to the procedure. Aspirating needle, 3½ inches in length, and in diameter, number 3 of French scale. Glass tube, 2 feet in length, ⅛ inch diameter, and bent at an angle of 45 degrees 2 inches from one extremity; sterilized metric graduate and hypodermatic case with cocaine tablets.

Briefly, the steps of the operation are as follows: Place the patient on right side with knees flexed on abdomen and back arched so as to separate to the fullest extent the lumbar vertebræ posteriorly. Disinfect by usual methods an area of skin the size of the hand at the junction of dorsal and lumbar spines. The site selected for puncture should be between the two spinous processes most widely separated, generally the first and second or second and third lumbar. Insert the needle, previously sterilized, in the cocainized area one-half inch to the right of median vertical line of back and on a plane equidistant between the two most widely separated spines. Direct the needle upward and inward slowly. If it impinges on the lamina, withdraw a fraction of an inch and change its direction. Little difficulty is encountered in finding the opening between the laminæ. Entry into subdural space is detected at once by the lessened resistance to the passage of needle, and the clear fluid quickly appears at outer opening. The head of needle should now be connected with the glass tube by means of a joint of rubber tubing. The fluid can thence be conducted to the sterilized graduate on low side-table.

The passage of the needle causes little or no pain. The flow of fluid may last from 15 minutes to 2 hours, depending upon the degree of intra-dural tension. Engaging the patient in conversation, the assumption of an upright position, coughing or any movement attended with increased intra-thoracic or abdominal pressure, accelerates the rate of flow.[3] As the fluid drains

[3] Since the above was written the British Medical Journal of February 25, 1899, commenting editorially upon the cerebro-spinal fluid and intra-cerebral pressure, quotes Dr. Leonard Hill of the Royal College of Surgeons as follows: "The cerebral pressure depends directly upon the differences between the pressure of the cerebral capillaries and that of the atmosphere. The following influences increase the capillary pressure: (1.) Compression of the abdomen. (2.) Assumption of a horizontal posture and (3) Straining or forced expiratory effort with the glottis closed."

away, headache develops and the pulse and respiration increase in frequency, the former soon becoming low in tension. Occasionally the cephalalgia is intense and necessitates the withdrawal of the needle. During the operation the patient frequently perspires freely and drowsiness is a marked accompaniment or sequela of the loss of fluid. The pupils undergo no constant changes. Four hours after the operation the majority of these symptoms disappear. The writer has performed paracentesis of spinal dura in over eighty cases without the development of any serious symptoms or sequelæ, including cases of meningitis, cerebral tumor, paresis, status epilepticus, subdural hæmorrhage, acute delirium, tabes, uremia and catalepsy. In all it was carried out for therapeutic, diagnostic or experimental purposes.

In a series of experiments on healthy cases an approximate standard for the normal intra-dural pressure was established. In three cases with conditions constant the normal rate of flow was found to keep within the limits of 20 to 24 drops per minute with the apparatus used. The count was always made three minutes after puncture, with the patient quiet, using number 3 (French) needle, 8 cm. in length, connected to glass tube 60 cm. long and 30 mm. in diameter. Variation in these cases was slight and insignificant. Quantitative analysis of the fluid obtained was carried out in each case without showing any variation in ingredients other than slight differences in the amount of the chlorides. The specific gravity in each normal case was 1007.

Allowing for greater variation than shown by the three cases mentioned above, no patient should be considered as having heightened intra-dural tension from excess of fluid whose rate of flow under above conditions does not exceed 30 drops per minute or 30-35 cc. in 20-30 minutes. In the majority of patients manifesting symptoms of increased intra-cranial pressure, from whatever cause, the rate of flow will vary within wide limits, generally from 35 to 120 drops per minute, or from 40 to 180 cc. in one-half hour. In the three tabetic cases herewith reported the drop rate per minute was 85, 90 and 55 respectively.

In the following case of tabes recurring headaches with vertigo, suffused face and vomiting, followed by deep stupor, together presented a symptom-complex suggestive of increased intra-dural tension. At time of puncture the patient had been a

recognized tabetic for several years, a paralytic for several months and was slowly becoming demented.

CASE I. Male, 58 years of age, on admission to the St. Lawrence State Hospital in October, 1895, was suffering from tabes dorsalis, paralytic stage. Mental condition that of beginning dementia. Four months after admission the symptoms of intra-dural pressure above mentioned developed and lumbar puncture was performed May 26, 1896. In thirty minutes 95 cc. of fluid drained away. (*See table for analysis.*) During operation pulse and respiration increased in frequency and tension diminished markedly; he became irritable; complained of headache and perspired freely. Bodily temperature elevated two degrees, but quickly dropped to normal. On the following day he was confused, irritable and still helpless; three days later he began to move legs about and at end of a week could walk with the assistance of a chair. He increased in strength and weight; his facial expression improved and at the end of two weeks he was able to get about the grounds with the assistance of a cane. He continued moderately ataxic but able to walk alone until shortly before his death, which occurred from broncho-pneumonia, September 25, 1896.

The second case of tabes submitted to puncture presented no evidence of increased intra-dural tension. Puncture was performed in order to note if symptoms developed which would permit of a more certain diagnosis.

CASE II. Male, 32 years of age, single. Admitted to St. Lawrence State Hospital October 12, 1898. Diagnosis subacute mania of 5 months' duration. Eight months prior to admission he suffered Pott's fracture of left leg, and while convalescing fractured right leg. Admitted to hospital on crutches in rather reduced physical health. Had syphilis 10 years ago which was never treated. Has also been addicted to alcoholism and venereal excesses. Initial examination disclosed complete reflex iridoplegia with loss of patellar reflexes. Denied lightning pains. No sensory or subjective symptoms common to tabes were present except almost constant cephalalgia. Tabes was at once suspected and lumbar puncture performed October 28, 1898. In twenty minutes 90 cc. of fluid were obtained. (*See table for analysis.*)

Twenty-four hours after puncture the patient complained of lightning pains, which soon became so severe as to necessitate the use of morphia. Later his lower limbs were found completely anesthetic and scattered areas of cutaneous anesthesia were present over trunk. Cephalalgia disappeared after his first sleep. Pupillary and patellar reflexes were still non-responsive and lower limbs paralyzed. Bladder symptoms and attacks of gastric crises soon appeared. The immediate effect of the operation was to suddenly precipitate the patient from the ataxic to the paralytic stage. This naturally caused some anxiety, but he slowly regained the partial use of his limbs. Three weeks later he was as comfortable as prior to the puncture except that he had occasional lightning pains. At the present time, five months after puncture, the gastric crises are recurring and bladder symptoms are becoming troublesome. Whether the operation hastened the development of the sensory cord lesion is a mooted question. The sudden onset, after puncture, of the advanced and paralytic symptoms can certainly be attributed to the immediate effects of the loss of fluid. The temporary nature of the symptoms signify a re-accumulation. The relation of the puncture to the development, five months later, of gastric and bladder symptoms can only be conjectured.

Case III. Male, aged 55 years. Admitted to the St. Lawrence State Hospital August 19, 1898. Diagnosis acute melancholia, duration one month, and locomotor ataxia, pre-ataxic stage. No evidence of syphilis. On admission patient was well-nourished, presented Argyll-Robertson pupils; diminished reflexes; lightning pains; girdle sensation; irregular areas of cutaneous anesthesia and bladder symptoms of tabes. Recurring attacks of mental confusion with intense cephalalgia accompanying, characterized the case. Lumbar puncture was performed to note its effect on these two last-mentioned symptoms. At the time patient presented no evidence of increased intra-dural pressure, but 55 cc. clear cerebro-spinal fluid were obtained by the usual method in 20 minutes. Pressure was nearly normal and patient's symptoms remained unmodified by puncture.

Bacteriological analysis of the fluid obtained from each case was negative. Stick or drop cultures exhibited no growths and the injection of 50 cc. of fluid from Case I into a rabbit produced

no noticeable symptoms. Sedimentation of the fluid and the use of several stains, including Gram's, gave no evidence of bacteria except a few scattered streptococci in fluid from Case I.

Quantitative analysis of the fluid was carried out in all cases. The result was quite uniform and is shown in the subjoined table.

TABLE

Showing composition of fluid in 3 cases of tabes dorsalis.

Case.	Amt. cc.	Sp. G.	Reaction.	Total solids, per ct.	Chlorides, per ct.	Proteids, per ct.	Extractives per ct.	Remarks.
Normal.	30–40	1007	Neut.	1.	0.5	0.02	....	Traces of various salts.
I.	95	1010	"	....	0.4	0.05	....	Streptococci. Sulphates.
II.	90	1007	"	0.98	0.86	0.05	0.54	Traces sulphates and phosphates.
III.	50	1005	"	1.01	0.68	0.05	0.98	Traces sulphates and phosphates.

To recapitulate: Case I. Tabes dorsalis, paralytic stage. Clinical evidence of increased intra-dural tension. After puncture gradual improvement in gait from almost complete paralysis to a moderate ataxia and marked physical improvement.

Case II. Tabes dorsalis, ataxic stage. No evidence of increased intra-dural tension. Diagnosis clouded by multiple fractures and mental condition of patient. Development of classic tabetic symptoms after puncture, their partial subsidence and finally, no improvement in the ataxia.

Case III. Tabes dorsalis, pre-ataxic stage. Puncture experimental and after-effects entirely negative. Bacteriological and chemical analyses negative in all cases.

The clinical results of puncture in these cases call attention to two points: *First*, the marked improvement in the ataxia of an advanced case, closely resembling the benefit derived from puncture in some cases of paresis, and *secondly*, the suggestion from results obtained after puncture of Case II, that in similarly doubtful cases the procedure may prove of diagnostic value. In order to determine the real value of these hypotheses, an extended series of experiments needs be carried out in a clinic rich in tabetic

material. Certainly no deductions worthy to be termed conclusions can be drawn from the diverse clinical manifestations obtained by puncture in the three cases reported herewith. The slight suggestion of a therapeutic possibility, *i. e.* improvement in ataxia, and the further suggestion of diagnostic possibilities in doubtful diagnoses, led me to report the above cases with the hope that other investigations might thereby be stimulated in institution or clinics where a larger number of tabetics is regularly treated.

CLINICAL CASES II AND III.—SYPHILITIC INSANITY.

By HENRY J. BERKLEY, M. D.,
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Case II.

A Case of the Paralytic Form of Chronic Syphilitic Insanity with a Study of the Cerebral Lesions, Particularly those of the Arteries.

The following case is a fair illustration of a comparatively frequent form of syphilitic insanity beginning at a moderately early period of the disease. The microscopic examination is most interesting, showing as it does, how grave physical symptoms may follow vascular inflammations without actual syphiloma, gummatous nodules pressing upon the cortex, or vascular disease leading to hæmorrhage. The diffuse character of the arterial lesions throughout the cortex and ganglia, with the absence of similar disease processes in important basal vessels, is most instructive, the changes in the latter being of a compensatory order.

W. L., æt. 28, single, a printer by occupation, was admitted to the City Insane Asylum, June 15, 1897.

Abstract of History.—There is no known neurotic heredity in the family. Father died of phthisis, the mother is living, and is not syphilitic.

Patient received a common school education, and was looked upon as being fairly intelligent. He worked at his trade in the city until three years ago, when he left home, and little is known about him during his absence. It is probable during this time that he acquired syphilis. Eighteen months before his admission to the asylum, he returned home ill, and shortly afterward had an apoplectic attack, followed by transient paralysis, and for some days thereafter was violent and uncontrollable.

The paralysis, which involved the entire left side, inclusive of the face, slowly receded under treatment, but his mental condition grew steadily worse until he became incapable of work, spoke but little, slowly, with a pronounced stuttering, and hardly recognized his friends and acquaintances. June 8, 1897, he had a second apoplectic seizure, with transient but complete paralysis of the left side. Delusions which had not before been noticed now became apparent. Those of persecution were the most prominent, but on one or two occasions there were ill-defined ambitious ideas. He became very voluble, but the speech was incomprehensible from his intense stuttering.

The examination on admission showed a physically well-developed man, without pronounced brand-marks of degeneration about the cranium or palate. He was much demented; at the same time suspicious and voluble, but incomprehensible. He could not remember the names of his brothers, or where he lived in Baltimore. The physical examination showed slight weakening of the entire left side, inclusive of the facial muscles, though the degree was insufficient to produce dragging of the foot. Both external recti, and the oblique on the left side were paretic. There was no ptosis, though the levator acted slowly. Pupillary reactions to light and accommodation were natural. Ocular fundi normal. Sight fair so far as could be determined. An intense fibrillary tremor was especially noticeable about the small muscles of the angle of the mouth and the protruded tongue; elicited on any voluntary movement, but absent in repose. This tremor was also noticeable in the small muscles of the hands and feet. Attempts at writing produced only irregular lines showing well-marked tremor. The gait was hesitating and unsteady. Standing with closed eyes did not produce reeling.

The deep reflexes presented the peculiarity that if examined after the patient had sat in a chair for some time, they were exaggerated, while if he were made to walk about for some minutes they were diminished. There was no decided difference between the two sides. The skin reflexes were slow. Tactile and pain sense seemed to be somewhat impaired, though the mental obtundity of the patient rendered an accurate examination impossible. The muscular sense was evidently impaired. Hearing seemed defective (drums normal), probably as a result of the

mental cloudiness. The sphincters were uninvolved. Patient was immediately placed on anti-syphilitic treatment, both by inunction and by the internal administration of mercury and potassium iodide, and for a time brightened up considerably, the paresis of the eye-muscles and of the left side receding completely and never returning. Appetite and sleep were excellent.

The improvement, however, was only manifest for a few weeks, and despite the continued energetic treatment, particularly with potassium iodide, he gradually became more and more demented, the physical symptoms, other than the ocular muscles, remaining unchanged. When spoken to, after the lapse of fifteen or twenty seconds, he would make an attempt to reply, but the answer, if comprehensible, would be irrelevant to the question.

The further course of the malady was from bad to worse. On November 27, he had an epileptiform seizure, intensely congestive in character, accompanied by frequent convulsions, at times partial, at times general in character. During some of the former variety, the head turned as if looking over the shoulder, and the index finger pointed in the same direction. The pulsation of the veins of the neck was so great, and the pulse so violently throbbing, that it was considered advisable to bleed, and six ounces of blood were withdrawn from the arm. Next morning there was no trace of paralysis of the limbs, but he had lost all control over the sphincters and only partially regained them. After this attack the patient became much degraded; was filthy in his habits, even to the extent of eating his own excrement, and, if irritated, would hold forth in a voluble but entirely unintelligible jargon. He was also destructive of his clothing, and could with difficulty be kept covered.

During December and January he had several minor epileptiform convulsions with entire loss of consciousness, but no subsequent paralysis. On January 20 he had a very severe seizure, and died in coma two days later.

The autopsy was begun two and a half hours after death. Body not emaciated, and without any marks of antecedent injury or disease.

Summary.

Thoracic cavity. The lungs had some hypostatic congestion at the bases. In the upper lobe of the left lung an area of emphysema. The

pleuræ were adherent to portions of the lungs. The heart weighed 270 grams. The valves were perfect. The pericardial cavity contained about 20 cc. of clear fluid. The thyroid gland was well developed.

Abdominal cavity. The liver, spleen, intestines and pancreas were normal. The kidneys showed slight changes of an interstitial character. The weight of the right was 148 grams, the cortex measuring 7 mm. in thickness. The left weighed 125 grams, the cortex measuring 6 mm.

Cranium. The skull was without marked asymmetry. The bones were very dense and without diploë. The frontal bone averaged 3 mm. in thickness. There were numerous osseous spiculæ from the inner table of the skull, especially in the orbital and sphenoidal regions, not of recent formation. The dura was quite adherent to the cranial bones, was not thickened, but the veins were very varicose, and greatly distended with blood. The sinuses were also filled, but contained no clots. There were about 50 cc. of slightly blood-stained serum in the subdural space.

The surface of the pia mater was covered with a layer 1 mm. in thickness, of gelatinous lymph exudate, and the veins were tortuous and filled with blood. The larger vessels all showed broad whitish streaks along their margins. The pia was universally slightly adherent to the cortex.

The basal vessels were normal in anatomical formation, were considerably thickened, pearly to the eye, and along their margins were fine whitish gray streaks. These streaks were also very apparent along the course of the larger veins of the pia. The arachno-pial space contained about 20 cc. of serum slightly blood-stained. The pia peeled off from the cortex without injuring it, leaving a pinkish surface. On section, the tissue of the gray matter of cortex and ganglia was seen to be congested. The white matter showed considerably less of the reddish tint than the gray. All the ventricles with the iter, were moderately dilated, and contained clear serum. No trace of a gross degenerative process could be found in any portion of the pyramidal tracts or elsewhere. The bulb and cord were strongly congested.

Portions of the cortical ganglionic tissues, the medulla and cervical enlargement of the cord, were preserved in Müller's fluid and in alcohol for microscopic examination. The arterial vessels of the base presenting exactly similar appearances to the touch and eye, slight thickening with milky lines along the periphery; but one vessel was preserved for microscopic examination, the basilar artery.

Microscopic Examination.

Basilar artery. Hæmatoxylin, eosin, Van Gieson's picric fuchsin, and safranin, were used as staining agents.

The external layers of the basilar artery showed unimportant changes, even the vasa vasorum being uninvolved in any decided pathological alteration. The intima, on the other hand, showed an extensive endarteritis, of unequal character, the lumen of the artery in places being

greatly reduced by annular thickenings, while in other stretches the proliferation was, by comparison, trivial, though still considerable. Where the proliferation had assumed a hillocky character, there seemed to be a slight tendency for the layer to separate from the membrana fenestrata, though this, in part, may have resulted from the hardening agent. The nuclei in the thickened layer were only fairly numerous, well stained, none showing fragmentation.

Vessels of membranes. In the meninges, the arteries as well as the veins showed an unequally distributed but entirely different pathological process from that in the basilar artery. The larger arteries have but little of the alteration, the smaller ones being more affected.

The intima is scarcely at all involved, there being no thickening of the membrane nor alteration of the nuclei, nor is there apparent damage to the fenestrata. In the muscularis a nucleus is now and then seen, intensely stained and undergoing destruction. This alteration is, though, infrequent. The adventitia, on the other hand, is everywhere in greater or less degree involved by a proliferation of small, round cells, the nucleus being large, the surrounding protoplasm hardly visible with safranin or hæmatoxylin, and just discernible with the eosin stain. The arrangement of these nuclei is peculiar; they do not equally surround the vessel, but are arranged most often in nodular formations, separating the outermost layer of the vessel from the inner ones—periarteritis nodosa. In a few places an equal distribution of the round nuclei is found around the vessel, but it is not usual. The nuclei have now and then hæmatin crystals and blood debris interspersed among them, but wandering cells are very infrequent. The proliferation of the round nuclei is not confined to the outer sheath of the vessels, but lines of cell proliferation are traceable from the vessels into the contiguous fibrillary tissue, where dense aggregations are seen. Less dense accumulations of cells are interspersed throughout the meshes of the pia, the thickening of the membrane being considerable in one place and insignificant in others. The connective-tissue network of the pia has also undergone some thickening, but the bulk of the swollen mass is formed of the aggregations of round cells.

Very numerous round nuclei, in the neighborhood of the most diseased vessels are undergoing fragmentation and degeneration. Debris, except that originating from the hæmaglobin of the blood, is very seldom seen.

The contents of the blood-vessels (Müller's fluid preparations) show nothing unusual, the red blood-cells being well stained with eosin, and the leucocytes are not more numerous than usual, nor do they show any disintegration.

The Cervical Cord.

The soft meninges of the cord do not show the same degree of alteration of the arteries as those of the brain, an occasional vessel being found with beginning periarteritis, but the numbers are very small.

Staining with Nissl methylene blue, thionin, safranin, and nigrosin.

It is rare indeed to find a cell in either anterior or posterior horns that shows anything pathological. The staining of the granula with Nissl, thionin, and safranin is excellent; and they are brought out sharply and clearly. Perhaps a single cell in each section shows central chromatolysis, but the nuclei and nucleoli are unaffected. The chromatin contents of the nuclei are well shown in the safranin preparations. The vessels have no fixed nuclear proliferation about them. The neuroglia, so far as can be determined with the above stains, is strictly normal.

Medulla Oblongata.

Sections were made of this portion of the nerve axis up to the level of the principal acoustic nucleus, and stained with Kolossow, Nissl blue, Nissl congo-red, safranin, Weigert hæmatoxylin, picric acid, hæmatoxylin, Golgi, and iron hæmatoxylin. The periarterial thickening is just beginning, and the actual changes in the arteries are insignificant. Around a few of the vessels, both arteries and veins, there are exudates of a plasmatic material stained blue by hæmatoxylin, and yellow by picric acid. A few small spots in the posterior portions of the pyramidal tracts showed similar deposits in the tissue, none of them being extensive.

Among the nuclei on the floor of the fourth ventricle, and among the cells of the olivary bodies, changes in the protoplasm and nuclei are far apart and minimal. A very few cells show with the methylene blue a central chromatolysis, the others are well stained, the granula distinct, few nuclei are displaced from their central position, enlarged, or have the nucleolus roughened.

The safranin shows these departures from the normal more clearly than the blue stain, especially in the nucleus. The nuclei seem large, the substance is turbid, the nucleolus unstained.

Cortex Cerebri.

Throughout the cortex, but especially in the outer and deeper layers, also in the white substance, the condition of the neuroglia excites immediate attention. With the chrome silver stain, the bodies of the podasteroid cells are extremely thick, the tentacles much swollen, and the branches attached to the vascular walls unduly thick, but in this condition the long-rayed cells do not seem to participate. Similar effects are seen with some of the aniline stains, notably the safranin. The neuroglia cells do not seem to be unduly numerous, but their bodies are overlarge, distinctly stained a light pink, are of a homogeneous hyaline appearance, with the nucleus pushed to one extremity. The protoplasmic arms are unusually prominent, and on close examination with immersion systems, the footed branch is seen to contain a very fine granular material stained more deeply than anything else within the boundaries of the cell. The nucleus is clear, the chromatin particles closely approximated to the nuclear membrane, giving it a roughened appearance, and leaving the central regions transparent. Neuroglia cells are found with

considerable frequency among the round nuclei permeating the tissue adjacent to diseased vessels, showing prominently among them by reason of their light pink-yellow coloring among the more darkly stained round nuclei. In these situations they do not appear to be different from those found elsewhere, except in infrequent spots along the margins of vessels that have undergone necrotic alterations, where, in common with other cell elements, they are undergoing disintegration.

The diseased state of the blood-vessels is a more prominent feature of the intra-cortical regions than of the meninges. The periarteritis is now equally prominent with veins or arteries, but varies considerably in intensity in the several portions of every section. Frontal, middle and posterior regions seem equally affected.

Many of these arteries and a considerable proportion of the veins present colossal alterations of their outer layer. The intima, while not altogether escaping implication, by reason of the pressure from the periphery narrowing and distorting the lumen, is very little affected. The muscularis, too, has not altogether escaped, but is little diseased in the largest number of vessels. Where the proliferation is most intense, the cells are hyaline, and the nuclei are absent over considerable stretches of the wall. Outwardly the Virchow-Robin lymph space is obliterated by proliferation of round cells, and in frequent spots the adventitia is lifted away from the inner layers by focal accumulations of the cells. In other places the whole adventitial layer is irregularly filled with aggregations of the round nuclei which rather frequently fill the entire perivascular space and overflow into the contiguous territory, penetrating among the nerve and neuroglia elements. Hæmatoidin crystals are found with some degree of frequency in the intravascular and extravascular spaces, the latter being widely dilated.

The smaller arterioles and capillaries show a continuation of the perivascular round nuclear proliferation, but the process is diminished in intensity. The capillaries are tortuous and thickened. At various points in the gray layers of the cortex the perivascular aggregations are seen to be sufficiently great to almost close the lumen of the artery, which is seen to be irregularly constricted, perhaps not sufficiently to destroy all the blood circulation, but at least to cut off the greater portion of it. Around the margins of such a vessel and penetrating 50 to 100 μ are areas that refuse to take the aniline or hæmatoxylin stain to the same degree as the adjacent tissue does. Examination of these areas, which were found in a number of sections, shows the elements to be undergoing degenerative changes. The round nuclei which usually pervade them are disintegrating, the neuroglia cells are pale, almost invisible; the nerve elements are swollen, pale, do not take up the dye; their nuclei are only found after close search, driven to one extremity of the cell, most frequently the apical process, the nucleolus indistinct or invisible. No necrotic areas were found in the sub-cortical white substance, the vascular changes not being quite so intense as in the gray.

Beyond the necrotic zones the nerve cells show but indefinite changes

with safranin, hæmatoxylin and other ordinary stains, but they do not appear to be normal, containing considerable quantities of metaplasm. Even the smaller pyramidal cells do not stain equally or absorb too large quantities of the dye. The nucleus, too, is frequently forced away from its central position, the caryoplasm is too deeply stained, and the chromatin particles, while present and not agglutinated into masses, are swollen, and the nucleolus is roughened. Some few cells are quite globular and have no visible nucleus. The lymph spaces around the cells are not usually large. They contain one, two or even three lymphoid corpuscles, but never any considerable number of them.

The general mass of the cells of the cortex presents two types, with long hæmatoxylin and eosin stains, and this is especially noticeable in the larger cells of the second and third layers.

Those most closely approaching the normal have a pale, finely grained protoplasm, containing a large mass of metaplastic material, with processes traceable considerable distances from the body. The contained nucleus is vesicular, with distinct nucleolus having fine chromatin threads radiating to the membrane, giving something of a net-like appearance.

The other variety has darkly stained protoplasm, the arms are untinged for any considerable distance from the body, the nucleus is very dark, of irregular shape, with no nucleolus or adnucleolar particles visible. Nucleus is frequently displaced from the center of the cell, oftimes making a distinct bulging of the outline of the protoplasmic wall, or is driven into one of the processes, more frequently the primordial than basal.

In sections under low power the frequent penetration of the round nuclei into the tissue outside of the vessels is the most prominent object in the field of the microscope, especially in hæmatoxylin-stained specimens. This proliferation is not confined to any single cellular layer or to the gray matter, but extends into the white, and is particularly noticeable in the second cellular layer. The process is entirely inflammatory in respect to the vessels, degenerative as to the cells.

Weigert-hæmatoxylin. There are no definite lesions of the medullary nerve tissues either in the intercellular network or in the subjacent fibre layer. The radiating bundles are distinct and well stained. The outer tangential band shows a variable condition. In some places the fibres composing it are numerously and well stained, while in others they are very sparse. None of the tubes anywhere are unusually varicose.

Nissl Methyl-blue and Thionin stains. Though the preparations stained by these methods were hardened in the same bottles as the bits of the spinal cord, and the same procedure for staining followed, great differences are found to be present in the reaction of the nerve cells to the dyes from similar cells in the medulla spinalis.

The following description is intended only to apply to the larger cells of the motor region, the condition of the granula in the others being too uncertain to admit of word depiction.

These larger cells are stained a uniform blue, and but very infre-

quently is any indication of the granula seen in individual cells. On very close examination under high powers, the protoplasmic substance has a reticulated look as if it was filled with a multitude of small vacuoles. Many of the cells are more than half-filled with metaplasmic contents, the strong yellow granules contrasting sharply with the surrounding blue. The nuclei and nucleoli are not sharply defined by the stain. The nucleus is very frequently dislocated. With the thionin the nucleus is frequently devoid of the usual dust grains, and the homogeneous character of the protoplasmic substance is better marked.

Corpora Striata.

The vascular alterations in these bodies, while having the same character, are even more intense than in the cortex, the nodular periarteritis being universally present, and the diffuse infiltration of the tissue with round nuclei more striking.

The most peculiar feature of the sections, is, however, an extensive pigmentary disintegration of the scattered groups of large nerve bodies. Even the best preserved of these are completely filled with coarse, round, brown granules that do not accept any of the aniline or hæmatoxylin stains. The nucleus is ofttimes so covered up by the metaplastic grains as to be invisible, or it is pushed to one extremity of the cell. In other nerve bodies further advanced in the degenerative process, the cell space is only partly filled with the coarse brown grains, part having been removed, and only on the closest examination can now and then a globular, hyaline nucleus be seen, sometimes absolutely devoid of stained contents, at other times holding a faint nucleolus. With the most degenerated bodies only a few scattered grains mark the place where the cell was situated, and neither stainable protoplasm nor nucleus can be determined about them.

The condition of the neuroglia is similar to that of the cortex. No extensive alteration or diminution of the nerve tubes could be determined with Weigert-hæmatoxylin.

Optic Thalami.

The vascular alteration in this region does not appear to be nearly so extensive as in the corpora striata, and the cellular degeneration is correspondingly diminished, the elements being as nearly normal as in the bulb. The acentric position of the nucleus is still common, and the protoplasm has masses of pigmentary matter contained within its boundaries, but the outlines of the cells are preserved.

The Nissl blue preparations show the presence of granula in the majority, while a few have assumed a diffuse blue color.

Case III.

Acute Insanity Beginning in the Early Stage of Secondary Syphilis.

While acute insanity beginning in the florid stages of syphilis is not unknown, it is a comparatively infrequent form of mental disturbance, and is always characterized by sudden furibund attacks of maniacal excitement, followed by semi-comatose states of varying duration. The few autopsies that have been obtained have invariably shown grave disease of the intima of the cerebral blood-vessels, usually in the form of an acute proliferative endarteritis local in character, often proceeding to complete closure of important vessels. The accompanying case is a typical example of this form, though the man recovered under most energetic anti-syphilitic treatment.

I. J., æt. 36, was admitted to the asylum, March 7, 1898, suffering from a stuporous form of insanity.

The family history is unimportant. Patient had always been a steady, hard-working man up to the beginning of the present mental trouble. Toward the end of November, 1897, he acquired a hard chancre, and soon afterward became anemic and physically depressed. In the neighborhood of three weeks before admission he developed a pustular syphilide, which soon became well marked over the arms, thighs, neck, and back. The inguinal glands also became swollen. Two weeks before admission he began to show signs of mental disturbance, and within a few days became violently maniacal, had to be restrained, first at home, and then taken to a police station, whence he was transferred to the asylum.

When first seen the excitement had entirely abated; he was quiet and stupid and answered questions coherently, but in a peculiar, slow, uncertain fashion, denoting marked mental inhibition. No delusions or hallucinations were apparent. There is nocturnal headache. Patient is exceedingly anemic and very weak. The cutaneous eruption is pretty well defined over the whole body and is of a pustular form, intermingled with a scaly syphilide. The inguinal, axillary, post-auricular and other lymphatic glands are enormously swollen.

The reflex movements of the iris are normal, the deep reflexes

are exaggerated at the wrist, and normal at the knee. The superficial reflexes are normal. The muscular movements are slow, uncertain, and there is disturbance of the sense of muscular position. The gait is slow, unsteady, but the patient stands equally well with eyes closed or open. Cutaneous sensations for tactile, heat, cold and pain perceptions are markedly dulled. The special senses are all normal. The circulation is poor, the heart's action slow and irregular. The hair is beginning to turn gray in irregular patches (trophic?).

He was immediately placed on suitable diet and inunctions of blue ointment, then of oleate of mercury, and finally of the soziodolate, but did not improve, but, on the contrary, became weaker and more anemic until he was confined to bed. The inguinal and axillary glands suppurated freely and were opened. By the first of April he was thoroughly bed-ridden and incapable of even sitting up. The inunctions were pushed, and mercury internally, in the form of the bichloride, was added, apparently without effect. Salivation did not occur.

The mental condition during this period and until the first of June was peculiar. During the whole time he remained in bed apparently semi-comatose, but, if spoken to or touched, could be roused long enough to reply to a question, the answer being very slowly enunciated with a distinct interval of several seconds between each word. When the stimulus was removed he would immediately fall asleep again, and continue so indefinitely.

The man now became intensely degraded. The urine and feces were passed in bed; food or water could only be taken from a spoon; and the general nutrition sank so low that dissolution seemed imminent. Attempts to speak were preceded by twitchings of the orbicularis, which extended to the neck muscles.

The pupils were now dilated but responded to light. The knee and wrist jerks were markedly increased.

By the end of June there were beginning signs of improvement. Food was taken in larger quantities; and nutrition improved, though slowly. The mental condition remained stationary, the torpor being the only recognizable lesion. During July and August there was progressive improvement under the continued administration of mercury externally and internally. Mental activity began to return in some degree, and the urine was less

frequently passed in the bed-clothes. By August he was able to dress, to walk about the ward, and to converse with his fellow-patients. His recovery from this time was uninterrupted. The squamous syphilide disappeared, leaving only the marks of the pustular eruption. In late September he did some work about the ward, and though still slow in speech, showed no decided intellectual defect. Nutrition constantly improved, and, with the increase, the slowness of speech wore off. He was discharged in November, 1898, and has not returned to the institution.

The urine examined shortly after admission, was high colored, sp. gr. 1027, showed an increased amount of acid urates, 15 gr. to liter of urea, and a trace of sugar. Chlorides, phosphates and other salts were normal in quantity. The microscopic examination showed no casts. The glycosuria was transient.

On June 17 the color was still high, but the sp. gr. had sunk to 1016. Uric acid, urea, and the phosphates and chlorides were below normal. Microscopically there were a few hyaline and granular casts.

INSANITY AND HOMICIDE.[1]

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That aspect of insanity which relates to crime and especially to crimes of violence, committed by chronic lunatics, dangerous paranoiacs, irresponsible imbeciles, epileptics and others, is possessed of an importance which concerns not only the medical profession but also attracts, just as strongly, every person who is interested in the administration of justice and in efficient methods for the protection of the community.

Upon occasions of serious crime, such as an assault with intent to kill, or a homicide, the physician, from his special knowledge of mental disease, is often called upon as an expert to testify as to the responsibility of the accused, and no one ought to be more thoroughly familiar with questions of this character, or more competent to determine them, than the alienist. In some instances of modified responsibility, such as are found in uneducated deaf mutes and imbeciles, it is difficult in all cases to determine the relationship of the offenders to the standard of the law by which they are to be judged, especially in the young. All such defective individuals whether young or old who commit or attempt to commit homicide should be held to a rigid scrutiny, and it should be ascertained with care whether they are subjects, fit for some special educational or industrial school, a reformatory, or an asylum for the insane. The simple declaration of irresponsibility in persons who are thus naturally defective, far from being a measure of leniency as many imagine, carries with it, on the contrary, grave consequences to the individual, for the mental condition which such a decision involves cannot be other than a permanent and incurable one, and the commitment

[1] Read at the Annual Meeting of the American Medico-Psychological Association, held at St. Louis, Mo., May, 1898.

to an asylum, without the subsequent intervention of clemency, must necessarily be for life.

Against the plea of insanity, there is a popular prejudice based upon a common belief that such plea is often used as a cloak to escape the penalty of crime. An occasion for such suspicion may arise in some rare instances, but, as a rule, the defense of insanity does not prevail as often as it should. This mistrust will become less prevalent as the knowledge of the medical profession regarding the various forms of mental disease grows more exact and fixed, to the exclusion of those ephemeral and transitory manias, always of doubtful existence and now happily becoming, like other exploded notions, simply historical incidents of the past.

Volumes have been written upon the subject of criminal responsibility and upon criminal law in relation to the insane, but the purpose of this paper is not so much to discuss these well-worn subjects as to present the results of the operations of the Matteawan State Hospital in relation to homicidal cases committed to its custody. We shall include not only cases in which murder has actually been committed, but also those instances wherein direct and premeditated but unsuccessful attacks upon life have been made, as well as all assaults of the nature of an attempt to kill. The criminal acts of the insane are usually destructive acts, directed either against life or property, and spring from a fancied sense of injury to that egoism which is so largely and morbidly developed in most cases of insanity. Offenses committed by sane persons, as a rule, are unlawful appropriations of property either to obtain means to live an easy and indolent life or to gratify the appetites or passions. Out of twelve hundred and twenty convicts at Sing Sing in the year 1896, sixty per cent. were convicted of crimes against property; at Auburn, with a total population of ten hundred and fourteen, the proportion was fifty-eight per cent., and at Clinton, where, so far as possible, the habitual criminal is confined, the proportion of crimes committed against property was seventy-one per cent. The acts of the insane, on the contrary, are directed far more often against the person and are of a dangerous character. Out of the present total insane population in the public institutions of the State of New York, about one person in thirty is held in custody

for having committed some crime for which he is under conviction or with which he stands charged, and about one in every hundred inmates has either committed or attempted to commit an assault with intent to kill, or an actual homicide. This latter statement is probably rather under than over the truth, and does not include the more numerous instances of minor or simple assaults.

The Matteawan State Hospital receives as patients all those who may be found to be insane while undergoing sentence of imprisonment in any of the penal institutions of the State, and also all cases charged with crime who enter the plea of insanity before the courts and are committed thereupon to the custody of this hospital, pending recovery. Out of two thousand and eighty inmates thus received, six hundred and sixty-two were charged with arson, assault, and murder, of whom four hundred and twenty-nine were received from the prisons of the State and two hundred and thirty-three from the courts. Thirteen of the total number were assaults to rape,[2] five were assaults to steal and rob, but in the large majority of instances the nature of the assault was not stated. There were eighty-five cases of arson and while many of them probably were designed to destroy life and actually accomplished the purpose planned, yet the exact number of such crimes which were attended with fatalities cannot be ascertained from the early records of the hospital. Undoubtedly, nearly all of these persons charged with arson and with assault the nature of which is not specified, were elements dangerous both to life and property, but from their imperfect histories they cannot be classified as clearly homicidal.

We propose to consider only such attempts as were unmistakably made upon life, and consequently have rejected a great number of assaults for other minor purposes wherein neither the motive nor the nature of the assault is given. Omitting, therefore, all cases of assault to rape and to rob and all cases of arson, even though severe injury or death may in all probability have been intended and have so resulted, and excluding also all other minor and unclassified cases of assault and confining this

[2] In addition there were sixty-eight commitments on the simple charge of rape, assault not being alleged.

report to examples wherein direct homicide or attempt at homicide has been committed, we have a total of three hundred and ninety-eight insane persons charged with successful and unsuccessful attempts upon life.

A detailed statement is given as follows:

Crime.	Sentenced for life.	Sentenced for a term of years.	Court cases, or unconvicted class.	Total.
Murder	90	5	84	179
Manslaughter	7	41[1]	5	53
Assault to kill	.....	82[2]	84	166
Total	97	128	173	398

[1] Average length of sentence, seven years, allowing commutation for good conduct.

[2] Average length of sentence, four years and eleven months, allowing commutation for good conduct.

It will be noticed that out of one hundred and seventy-nine insane persons who have committed murder, over fifty-three per cent. were received from the prisons, having been convicted and sentenced for life. So far as it is possible to judge from their histories, and from the character and course of their disease, at least forty per cent. of such convicted cases were insane at the time the crime was committed. In many instances, the fact of their insanity was not recognized at the time of their trial but in others, the plea was set up as a defense and failed.

Life convicts that recover are returned to prison, but of the total number committed to our custody the majority remain insane until death, and are detained at this hospital. A few years ago on account of our then overcrowded condition, an exception to this practice was made and a number of patients having been found to be incurably insane, were pardoned and transferred to other State hospitals, yet, notwithstanding this, out of all the "life men" in the State of New York at the present time twenty-four per cent. are inmates of the Matteawan State Hospital. These facts would indicate that mental disease and homi-

cide are closely related, and that insanity itself is a direct and prolific cause of homicide. On account of popular prejudice or feeling, juries often do not recognize, or at least will not admit, the existence of insanity, and the convicted offender comes at last to the hospital by way of some penal institution but with the stigma of a felon added to the unfortunate burden of insanity. It is true that where sentence is imposed for life, and many advocate this procedure in all instances, society is protected, whether the individuals be sane or insane, particularly in cases of dangerous paranoiacs; nevertheless, an equal safeguard would be afforded by committing them to a special hospital for the insane, as they are incurable and would undoubtedly remain for years, if not till death. In any event, they reach the hospital through the prison. If the idea of hospital treatment for the insane criminal should be relinquished and punishment be enforced by penal imprisonment for all crimes of the nature of assault irrespective of the mental condition of the accused, the theory of retribution would overreach itself, because large numbers of dangerously insane persons who commit minor assaults and who are now frequently sent to the asylum, would be sentenced instead for short periods to the prisons and set at liberty upon the expiration of their terms, often later to commit a homicide.

The insane hospital is necessary as an adjunct to the prisons, and in connection with it, the importance of a good medical service attached to each penal institution is evident. By the efforts of competent medical officers, the dangerous insane who by chance have been sentenced to prison for brief terms can be weeded out and committed either to a special hospital for the criminal insane or to the various State hospitals, where, if they continue to harbor homicidal delusions, they may be detained for life or until a change in their mental condition renders them, in the opinion of the medical superintendent, safe to be at large.

The most competent physicians obtainable should be selected for prison service, men whose tenure of office should depend upon good service. In all matters relating to health and mental disease, they should be independent of the warden and invested with sufficient authority to enforce their ideas and should be held responsible for results. There should be a better prison

system of case records and case histories. The insane should be sifted thoroughly from the prison. These institutions should properly be punitive and reformatory in their character and not receptacles for lunatics. Greater care should be exercised by the courts in determining the question of mental disease. The present condition of expert testimony is partly responsible for this. The law frequently confines the opinions of medical men to grounds based upon the hypothetical question and restricted to certain partial aspects of the case which may be brought out by evidence at the trial. Moreover, the physician often enters the case as an advocate. There is a growing opinion that experts should be summoned by the court, should have full access to the defendant, and after all evidence has been submitted should make to the court a statement of facts from which their deductions are drawn and report in full the reasons for their conclusions. Even then, no one would expect the results to be infallible, because human judgment at best is liable to error. It would, however, reduce the present number of improper convictions. The convict is said to belong to a degenerate class, and there is considerable foundation for this statement, as without doubt many persons are sentenced to prison who should have been committed originally to the care of a hospital, there to remain under accountability to the court until discharged by recovery or death, or by some other method of legal release.

The average age, at time of sentence, of ninety-seven life prisoners committed for murder and who subsequently reached this hospital for the insane, was thirty-three years. The average age of eighty-four unconvicted cases of homicide directly committed by the courts to this hospital, as persons insane at the time of the act, was thirty-eight years. The average length of sentence to prison imposed upon forty-six persons, other than life men, who were convicted of murder and manslaughter and who became inmates of the Matteawan State Hospital while serving their terms, was seven years.

Epilepsy is supposed to be a prolific cause of homicide, but as compared with other forms of insanity, it does not appear to be an important factor. However, this is apparently due to the relative infrequency of the disease. Out of two thousand and eighty cases of insane offenders committed to Matteawan only

seventy were afflicted with epilepsy. The following statement shows in detail the crimes with which they were charged:

CRIMES COMMITTED BY INSANE EPILEPTICS.

Arson	2
Assault	16
Bigamy	1
Burglary	8
Forgery	4
Injury to property	1
Larceny	14
Mayhem	1
Murder	11
Perjury	1
Rape	4
Robbery	4
Sodomy	2
Vagrancy	1
Total	70

Forty per cent. of their number are charged with murder and assault, including mayhem, and to this category might be added arson and rape, which would bring the ratio of serious crimes against the person up to fifty per cent. Other forms of insanity, however, are so predominant that epilepsy does not appear as a large productive source of actual murder, only six instances being recorded out of a total of one hundred and forty-three cases of murder and manslaughter from the prisons, and only five out of eighty-nine from the courts, a percentage upon the whole number of convicted and unconvicted epileptic cases of 4.74 per cent., so that while the epileptic *per se* is a dangerous factor, he does not play a prominent part in the causality of murder.

Nearly one-half (forty-five per cent.) of the cases from the prisons who have committed homicide are affected with some form of mania either subacute or chronic, with delusions of persecution; about one-third (thirty per cent.) suffer from melancholia; a large share of which is probably caused by anxiety and con-

finement; seventeen per cent. are in a condition of either feeble-mindedness or imbecility, while 4.2 per cent. are epileptics. Of cases from the courts who are charged with murder or manslaughter, the greater portion (fifty-six per cent.) like those from the prisons are affected with some form of chronic mania. Among the court cases, melancholia is prevalent to a much less degree, being twelve per cent. as compared with thirty from the prisons. The preponderance of cases of melancholia from the prisons arises probably from confinement and dwelling upon the nature and consequences of crime. The prison cases affected with melancholia offer the most encouragement for cure and from them are returned to prison the majority of such few cases as recover. Twenty per cent. of those committed by the courts for murder or manslaughter are found to be either demented or weak-minded to such a degree as to be considered irresponsible, and 5.6 per cent. are epileptics. In both the convicted and the unconvicted, mania, in some form, appears to be responsible for the larger number of homicides. Delusions of suspicion and of persecution are almost universally present; the patient believes he is to be poisoned; that some one is to kill him; that he is tortured in various ways; that his business has been ruined; that slanders are circulated about him, and so through the whole category of persecutions that to him are unendurable.

The character of their beliefs renders the population of a hospital for the criminal insane a difficult and trying one to care for. So many explosive elements are contained therein that it requires great vigilence on the part of attendants and officers and a full knowledge of the patient's daily condition on the part of the medical superintendent. The variety of chronic mania known as paranoia is a very common form of mental disease among homicidal lunatics. Those so afflicted constitute a most cunning, untruthful and disagreeable class of men, and are a very disturbing and ungrateful element, magnifying the most trifling acts into personal grievances, and often meditating revengeful and homicidal designs.

In collating these cases, it is noticeable that out of fifty-three instances of manslaughter, which is a crime of lesser degree than murder, forty-one were originally sentenced to prison for a term of years and seven for life, while only five were com-

mitted by the courts upon this charge to the hospital for the insane. It has happened within my experience where homicide has been committed and the defendant indicted for murder in the first or second degree, the penalty for which is death or imprisonment for life, that the plea of insanity has been withdrawn and a plea of guilty in a lesser degree has been made and accepted, both parties in the case being unwilling to risk the uncertain verdict of a trial. This course is often the result of a compromise between the counsel for the defense and the district attorney, and in this manner many insane men are sent to prison for a term of years, neither side being willing to try the issue. By this easy abandonment of the case the public is led to believe that the original plea of insanity was simply offered as a cloak and we believe the procedure has given rise to popular prejudice. The average sentence imposed in cases of manslaughter as have subsequently come under our care by transfer from the prison, is seven years, after making due allowance for commutation for good conduct. Another factor which creates intolerance of the plea of insanity is the occasional but rare discharge of the defendant, immediately upon acquittal, whereas the testimony may have shown that the mental derangement by its very nature, was of a permanent but intermittent character, though nevertheless a continuing disease, as in the case of Marie Barberi, where the defense was "psychic" epilepsy. The remedy would be for the jury to bring in a special verdict to the effect that the patient is dangerous to be at large, on account of the liability to such periodic outbursts, upon which verdict a commitment could, and should, be made to a hospital.

There is a class of the insane who while not committing murder, are yet homicidally inclined by reason of their delusions, namely, such offenders as commit assaults in the first degree with intent to kill. An insane man whose aim with a pistol is bad, or whose blow with a deadly weapon fails of its intended purpose is just as dangerous to the community as one who commits a murder. The sane man may be actuated by transient passion, but the man who is governed by the fixed delusions of insanity may be a permanent menace to others and requires different custodial care and treatment. Those who are opposed to the recognition of insanity as a defense for crime and who

advocate that a penalty of imprisonment for a fixed term should be exacted for every offense, forget that by imposing a definite sentence, the ultimate result would be to free a large number of these dangerously homicidal men. By this method of procedure in the lesser crimes a short term of imprisonment would not always be an adequate method of dealing with the insane criminal nor would it protect the community. The average commuted sentence imposed for assaults with attempt to kill, in the cases of eighty-two convicts transferred to the Matteawan State Hospital from the prisons as insane, was only four years and eleven months. Had not the asylum intervened, these persons would have been set at liberty upon the expiration of their terms. One convict now in our custody has committed four separate homicides and served four sentences in prison. He was transferred here during his last term and has now been detained as a lunatic fourteen years over his time. A person with dangerous delusions should be detained in custody as long as his insanity continues.

The doctrine of "degeneracy" seems to be another bugbear. In the event of serious crime, if the courts should stamp the degenerate offender as an irresponsible person and thereupon commit him as such to a hospital for the criminal insane, to be held until recovery, such action would practically result in his confinement for life unless subsequently the court itself or the Governor should intervene and grant release. The doctrine of degeneracy is nothing new. The corollary of such a proposition surely denotes the existence of such mental and physical defects as can be modified only by a course of physical, moral and industrial training at a reformatory for an indefinite period, or which may be so pronounced as to necessitate commitment to an asylum for the insane. The adoption of such ideas in relation to criminals is not in the direction of laxity in the enforcement of law nor does it operate as a threat against the community, but, on the contrary, if more thoroughly embraced, would be a public safeguard.

It is probable that heredity exerts a potent influence in the production of homicidal insanity. From the meagre family histories which accompany patients admitted to this hospital, we find it difficult to determine much in this direction, yet from what we are able to ascertain, there is shown a close connection

between insanity and crime in many instances. It is not strange that patients committed here for criminal acts should be found to have relatives in other State hospitals. That is often the case and is to be expected, but the intimate family association of insanity with homicide and crime is forcibly illustrated in the following instances at Matteawan; and when we consider how little personal history we can gather, that much of our population is foreign to the State, and that the members of the family in most cases are widely scattered, there certainly would be a more extended list if one could get at the facts. The following cases are confined at Matteawan: Two brothers, one convicted of two assaults to kill and the other of robbery in the first degree; two brothers, both accused of murder in the second degree; two cousins, both charged with assault to kill; father and son, father had committed four homicides and the son was indicted for assault to kill; two sisters, one accused of assault to kill and the other of assault in the third degree; two brothers, both convicted, one of murder and the other of forgery; two brothers, both committed murder in the first degree. This paper does not deal with minor crimes, otherwise the number on this list could be increased considerably.

In connection with the subject of this paper, the following table is of interest as showing the disposition of three hundred and ninety-eight homicidal inmates at the Matteawan State Hospital, who have been charged with homicide, or assault in the first degree with attempt to kill. Two hundred and twenty-five were received from the various penal institutions, of whom ninety-seven were life cases, and one hundred and twenty-eight were under sentence for a term of years; one hundred and seventy-three were committed by the courts, to be detained until recovered.

These figures possess value only as showing what has been done in one hospital especially devoted to the criminal insane. They embrace a history of over thirty-nine years, but during the first sixteen years the total number of patients received was extremely small, and the records were very imperfectly made. Subsequent to 1875 excellent case histories have been kept, but the hospital has suffered from overcrowding, and, for lack of room, could not receive all the cases that should have been committed to its custody until the new institution at Matteawan was opened in the spring of 1892.

TABLE SHOWING DISPOSITION OF THREE HUNDRED AND NINETY-EIGHT HOMICIDAL CASES COMMITTED AS INSANE.

Disposition of cases.	Convicted and sentenced for life.	Convicted and sentenced for a term of years.	Unconvicted and committed by the courts.	Total.
Still in custody	45	37	105	187
Died	22	17	43	82
Transferred to other hospitals for the insane	11[1]	21[2]	2	34
Transferred to prison as recovered	10	26	.....	36
Released	4[3]	14	3	21
Recovered and returned to court for trial	.....	.....	16	16
[4]Aliens still insane returned to homes in foreign countries	1	1	3	5
[5]Escaped	3	3	1	7
Discharged, destination not stated in early records	1	9	.....	10
Total	97	128	173	398

[1] Chronic (terminally demented) cases pardoned and transferred on account of overcrowding at this hospital.

[2] Terms expired, transferred on account of overcrowding.

[3] Pardoned.

[4] One pardoned; one term expired; three released by order of court.

[5] Out of these seven there have been only two escapes in the last fourteen years, both from the farm. One, a convict who had nearly completed his term, and the other a court case, both charged with assault in the first degree.

I believe that the consideration of the question of the proper disposal of the dangerous criminal insane would lead to the following conclusions, the observance of which would greatly tend to lessen the dangers from homicidal insanity, namely:

That there should be special hospitals for the insane in connection with the courts and the penal institutions of the larger States;

A more thorough examination by the courts of the mental condition of persons charged with crime;

Better methods of obtaining medical expert testimony;

The granting of greater powers and authority to prison physicians;

More extensive clinical records in the prisons;

The acceptance of the doctrine that dangerous lunatics should be confined until mentally fit to be at large.

HYDRIC TREATMENT OF THE INSANE.

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It is proposed to discuss briefly—

I. The status of Hydrotherapy.
II. Its adaptation to Asylum Practice, and
III. To state some results of its use at the Government Hospital for the Insane.

I. Hydrotherapy to-day rests upon the same basis of physiological investigation and clinical study as is involved in determining the scientific application of any therapeutic agency, whether it be a drug, a dynamic agent like electricity, or one involving vito-chemical principles like antisepsis or serum-therapy.

On investigation the scope of its recognized physiological relations will be found in due proportion to its wide range of clinical application. They have to do with the most fundamental and vital processes of the economy, including those of the nervous and vascular systems, of secretion, the metabolism of tissues and fluids, and, not least in importance, the regulation of animal heat. In the skin itself, to which applications are directly made, is found a most notable vascular plexus, capable, by the aid of its own muscular structure and the special mechanism of elastic and muscular fibers in the skin itself, of varying enormously in the amount of blood it may contain; of regulating its own circulation in partial independence of the vaso-motor nerves; and of thus profoundly modifying the general circulation and that of distant parts.[1]

In the skin are the terminals of nerves which conduct the tactile sensations, those of heat, and of cold. Through their agency,

[1] Dr. Woods Hutchinson: Boston Med. & Surg. Journal, November, 1897.

applications to the skin affect the centers of the vaso-contractor and vaso-dilator systems, the heat-regulating centers of the cord and bulb, the sympathetic, cardiac and respiratory centers; and water is capable of determining perturbative action upon them all, varying according to the methods employed.

This perturbative action of water applied to the skin will vary in accordance with different relative combinations of the three factors—temperature, duration and impact or force.

Through both tactile and temperature fibers there is also conveyed a *direct* excitation to the cortical sensori-motor cells, with diffusion of the stimulating shock through the associative pathways to other systems of neurons.

The field of physiological action thus indicated is seen to be unexcelled in breadth and interest by any that have been made tributary to scientific therapeutics. The direct or dynamic effects upon the nutritive balance of the neurons; the influence upon the circulation through the vaso-motor systems, and local mechanical impressions; and the effects upon the heat-regulating centers which are so intimately concerned with general metabolism, and the function and nutrition of the organs, constitute the three principal bases for the therapeutic use of water. For the details of the very considerable work carried on along these lines we must refer to the systematic works and periodical literature of the subject.

If we go back only a hundred years, when Currie in England, by aid of his clinical thermometer practically anticipated the most approved modern treatment of fevers, with all its precision and success, we find an enormous amount of clinical literature, with which many eminent names are associated. Progress upon the physiological side, the success attendant upon the Brand treatment of typhoid, as well as the good results in chronic nervous and nutritional disorders, have greatly contributed to the progress of hydrotherapy in recent years, which has been marked.

It is no slight evidence of intrinsic merit that it should have so completely left behind the prejudicial influences growing out of the commercial spirit and empiricism which have so often been associated with it, as well as the useless and finical elaborations of some who have written upon it.

It has passed the first period of crude empiricism, and the second, of rational empiricism with its better observations, more definiteness and precision in treatment, its systemization, and the establishment of certain practical principles and laws. Upon this basis much good medical practice rests to-day; but hydrotherapy has now reached a yet higher stage, and the last,—the scientific, with new relations, new data, new light upon old facts, a new systemization, and a new position in medical science. We commonly speak of it as a therapeutic method; but it seems almost a system in itself in view of the variety of physiological effects and therapeutic applications within its scope, including the rôles of tonic, sedative, revulsive and vaso-regulative, antiphlogistic, analgesic, antipyretic, hæmostatic, resolvent, eliminative or depurative, antispasmodic, etc.

It is, moreover, not too much to assert that, under a very wide range of application, its action is prompt, certain and safe beyond that of most remedies.

Its literature contains systematic works of scientific and practical completeness; in all respects, upon an equality with other medical branches.

Our text-books dealing with treatment have an increasing number of references to hydrotherapy, especially in connection with nervous disorders. Those who lead the thought and practice of the profession are practically unanimous in their favorable attitude towards it, and this good opinion is gradually extending through the ranks.

It requires only a very ordinary every-day seer to foretell that hydrotherapy must very soon be introduced into our leading schools of medicine as a regular branch of the curricula. This will result both from the growing sense of its value, and because it should be as largely as possible in the hands of the general practitioner, and not exclusively with the specialist. Moreover, the breadth of the field and the amount of accumulated knowledge require systematic and thorough study.

II. It is not denied that there are serious inconveniences and drawbacks attending hydric methods. These are not, however, generally insurmountable, nor perhaps disproportionately great. Hospitals, both general and special, with the facilities at their

command, will more easily surmount these difficulties; but they are not prohibitive even in private practice.

These methods are commended to asylum physicians chiefly upon three grounds: First, our need to increase the percentage of cures; second, the facilities which hospitals afford for their employment; and, third, the extraordinary value of this form of treatment in diseases of the nervous system and in the numerous disorders which occur as complications in insanity.

In support of the third proposition eminent authorities might be quoted almost without limit. I shall quote from two, selected because they are better known for their attainments in other branches of medical science than as hydrotherapists.

Dujardin Beaumetz, in summing up the action of hydrotherapy in nervous disorders says:[2] "In order that the functions of the nervous system should be duly performed, it is necessary, not only that there should be complete integrity of all the parts making up this system, but also that it should receive a regular and sufficient supply of unaltered arterial blood. When one of these conditions fails there is at once produced a disturbance of this system more or less profound. This condition understood, we may predict the most positive results from hydrotherapy, which acts upon the nervous system, upon the circulation, and upon nutrition.

"Upon the nervous system, by the sudden perturbation which it determines in sensory and motor functions, hydrotherapy acts to restore the orderly function of the cerebro-spinal axis; it also brings into action the vaso-motor centers, and produces thus an equilibrium between the functions of the brain and cord upon the one hand, and the great sympathetic upon the other; finally it counteracts the exclusive influence of such local affections as become, by reflex disturbances, the point of departure of a secondary perturbation, more or less severe, of the brain and spinal cord.

"Also by its action upon the circulation, which it regulates and enlivens, hydrotherapy exerts a favorable influence upon the brain and cord. Finally, by its general effects upon nutrition, by its action direct or indirect upon the vaso-constrictor and

[2] Léçons de clinique thérapeutique, t. iii, pp. 26 and 27; Paris, 1886.

vaso-dilator nerves, upon the secretory nerves, and finally upon the trophic nerves, cold water acts upon the nutrition, favors the orderly play of the functions of the different organs, and becomes one of the most active agents of tonic and reconstructive medication. Under its influence the red globules become richer in hæmoglobin and the oxygenation of the blood more active, a matter of paramount importance in the treatment of affections of the nervous system."

It may be added in this connection that there is no better means known to influence the early intracellular nutritional changes of insanity, whether the latter be the effect of functional strain or over-work or of toxic influences. In the former case the nutritional and tonic effects are invoked, eliminative processes being conjoined in the latter.

Baruch[1] quotes Prof. Draper, in a discussion before the New York Academy of Medicine, as follows: "Hydrotherapy is useful in all disturbances of innervation dependent on or co-existent with instability of the vaso-motor system. In cases in which the nutrition has been enfeebled by chronic disease, such as catarrhal and rheumatic affections, by emotional shocks, by alcoholic and venereal excesses, and in the protean derangements caused by so-called neurasthenia or spinal irritation, in hysteria and hypochondriasis, the good effects of the cold bath are very striking.

"It seems to be more effective than any treatment by medicines, stimulating nerve-centers, restoring the equilibrium of the circulation, and reviving the activity of the organic functions."

In short, if we will but observe, we may be convinced that there is a steadily flowing tide of professional opinion upon this subject, and it behooves us to decide whether this is not the tide we need to take in order to avoid the shallows and miseries that wait upon neglected opportunity.

> "On such a full sea are we now afloat;
> And we must take the current when it serves,
> Or lose our ventures."

But what should be the method of procedure on the part of those not already practically familiar with the subject, who feel

[1] Recent Advances in Hydrotherapy. Hare's Syst. of Pract. Therapeutics, Vol. iv.

inclined to test its value? The answer is emphatic: To first of all make adequate preparation by studying the best literature of the subject, and by becoming thoroughly familiar with the physiological problems involved and with approved clinical methods. Anything less will result in failures, disappointments, and undeserved discredit of the method. Do not rely upon any short disquisition of a score of pages, for such must prove inadequate and misleading if made the chief reliance. After this preparation it is not necessary to wait until an elaborate plant is installed, for while you are using such appliances as are ready to your hand, or can readily be devised, the principles and procedures already studied can be carried into effect and submitted to the proof of experience. Study principles! If there were nothing more to it than the application of certain empirical methods, it might as well be left to the empirics themselves, with their mingled successes and failures, both alike inexplicable to them.

At the present time it can perhaps fairly be said that the user is on trial even more than the method, since the latter is already supported by decisive testimony. If it is capable of good it is also capable of harm, though no remedy is safer in proper hands. If it is a flexible instrument, and capable of many adaptations, the more need of care in securing the proper adaptation to the exigency at hand.

III. The following is a brief account of the results of hydric treatment at St. Elizabeth during the last year, including tabular statements from the last Annual Report of some cases of Epilepsy and General Paralysis, which are there more fully detailed.

Probably the most satisfactory series of cases of all that have been brought under the treatment here consists of nine soldiers or sailors of the war with Spain, whose treatment began subsequently to the finishing of the report, or since October 1, 1898.

They had suffered from the physical and emotional strain incidental to the unaccustomed hardships of army life in the hot climates of Cuba or the Southern States. One, a sailor, presents a case of masked epilepsy attended by vertigo, mental confusion and violent impulse. He has, in the few weeks of treatment, presented marked improvement, amounting to almost entire relief from vertigo and confusion, and with decided physical improve-

ment. The case is so recent that it can only be cited as showing improvement, which may prove only temporary. No other treatment is being employed.

The remaining eight are cases of confusional type with extreme mental weakness, associated in all but two cases with marked physical depression. In the two cases not exhibiting marked physical weakness the condition was stuporous. They had already been under treatment for periods varying from two to six months, and only one was showing tendency to improvement when brought under hydric treatment. All have improved. Three have recovered and have been discharged. Two more have nearly recovered normal mental tone and will soon be discharged. The remaining four are making such steady progress as indicates recovery in the near future. In two of the latter improvement was very slight during the first four and six weeks respectively, after which physical and mental gain have gone on steadily together. The rapidity of improvement of the majority of these stationary cases, as soon as brought under treatment, was almost marvellous, and seems to mark this type of mental disease as especially suitable for the treatment. That the breakdown was sudden, under severe stress, would perhaps properly be regarded as a favorable feature; but it should still be borne in mind that they had nearly all reached a period when improvement, if there had been any, had ceased.

The following statement of results, with comments, is condensed from the Hospital Report of 1898, in which cases are stated in some detail. While some changes should be made to include the results of the six months which have succeeded the preparation of that report, the general results would not be materially altered, and I have not found the necessary time at my disposal to bring the report up to date. The period included in the report extended from August, 1897, to October, 1898.

"The whole number of patients who have received this treatment is 84.

Since opening the rooms containing the special apparatus for this work, May 5, 1898, an average of 55 daily treatments have been given, excluding Sundays, when it is not in use.

Of the whole number treated 14 are paretics and 12 epileptics.

Patients in these two classes will be considered in detail later in this report.

Of the whole number of individuals under treatment, 2 have died; 1, an old man, some months after transfer to another department; the other, of miliary tuberculosis.

In but 20 cases of the entire number had mental disease existed less than one year prior to beginning of treatment, and of these 5 were more than 60 years of age.

Of the 20, 7 have recovered; 3 are improving rapidly, and apparently near recovery; 4 are much improved, and still improving; 3 are improved, but in an early stage of treatment; and 4 are paretics, and will be spoken of later.

Of the 7 recoveries, 3 had acute mania; 2 acute dementia, confusional type; 1 acute melancholia; and 1 was a morphinist. One patient also made a good recovery from melancholia of eighteen and one-half months' duration prior to beginning treatment; having remained under treatment six months, though recovered at the end of four months.

After deducting those who are recovered, or dead, the acute cases, the paretics and epileptics, there remains a miscellaneous class numbering 35. These have been subjected to the treatment for its tonic-revulsive or sedative effects, either general or local, determined by the exigencies of the individual case. It would be tedious to mention these in detail, and I will merely mention a few that may for some reason merit a special notice.

A case of traumatic myelitis of lumbar spine, of eight years' duration, with severe pain in back and legs, frequently extending to the head, with much flushing of the face, and intractable insomnia, culminated in an attack of confusional insanity, for which he was sent to the hospital for treatment. Motor and sensory functions were much impaired in both legs, and especially in the left. In this case the mental symptoms are entirely relieved; there is very rarely any headache; and the symptoms, except the motor, are all very much relieved.

In two cases of tabes dorsalis the pains have been notably relieved by the Scotch, or the alternating, douche, as they have in two cases of alcoholic multiple neuritis, chiefly affecting the lower extremities. Another case of multiple neuritis, in an attendant, of general character and of great severity, was much benefited by wet-pack at 75 to 80 degrees of one to one and one-half hours' duration daily or twice a day, and made a com-

plete recovery. Two cases of neurasthenic melancholia have been decidedly benefited by a combination of tonic and sedative methods.

The greater number of these 35 have required treatment for the results of malnutrition having various forms and causes. It is regretted that the results in these cases cannot be definitely expressed. In the absence of precise data of comparison, I will only say that, while individuals have, as a matter of course, varied in the degree of benefit received, there are none who have not shown gratifying results. The latter are most commonly seen in improved color, flesh, and vigor, and in the abatement of 'nervous' symptoms."

A difficulty that meets one at the outset in stating the results of any given treatment in a miscellaneous class of insane patients arises from the lack of any objective data by means of which we may compare the patients' condition before and after treatment. The personality of the reporter becomes too prominent a factor, and, with the best intentions, it is sometimes difficult to make a perfectly fair report. In epilepsy we have a positive criterion of progress in the comparative frequency of the fits; and, though less positively, because more a matter of opinion, their comparative violence may be taken into account.

Cases of Epilepsy.

"It will be therefore mainly in reference to the convulsions that results will be given, though the natural inference would be a correct one, that commensurate improvement has occurred in the other symptoms. The following cases, selected by no definite plan, are all that have thus far received treatment.

The average gain in the eleven cases in which the record is accurate is 39.8 per cent; the average duration of treatment, 7.4 months. In two of these cases, namely, cases 4 and 6, bromides had been administered for many months, and were not discontinued on beginning present treatment. The condition under bromides alone is contrasted with that under bromides with hydrotherapy added.

In none of the other cases have any disturbing elements capable of affecting results been introduced.

TABULAR STATEMENT OF THE RESULTS OF TREATMENT IN 12 CASES OF EPILEPSY BY HYDRIC METHODS.

Case No.	Years' duration.	Average number of fits per month before treatment.	Average number of fits per month during treatment.	Average monthly gains per cent.	Duration of treatment in months.	General results.
1	25	4. 67	0. 8	80	5	Improvement, especially mentally.
2	15	15. 5	1. 3	12. 9	10	General gain.
3	7	6. 67	4. 15	37. 7	13	Marked gain in all respects.
4	14	5. 5	3. 16	39. 3	6	Improved mental tone.
5	24	13	5. 2	60	10	Marked improvement in every way.
6	36	11. 4	9. 8	14	5	Marked gain mentally and physically.
7	13	1. 5	0. 6	60	5	Great physical gain and complete mental recovery.
8	5	12. 2	7. 5	38. 4	8½	Less severity of fits.
9	19	5. 5	5. 3	3. 3	3	Some mental and physical improvement.
10	15	7. 3	3. 3	54. 9	9	Mental recovery; physical gain.
11	13	20	12. 6	37	13	General improvement.
12	20	[1]11. 9	[2]12. 8	.....	23	Apparent loss of 7.5 per cent; general gain has been notable. Record imperfect.

[1] Not including Petit Mal. [2] Including Petit Mal.

It is gratifying, upon looking up, so far as time would admit, what has been written upon the hydrotherapeutic treatment of epilepsy, to find such close corroboration of results which has been obtained here.

Fleury, in his classic work, "Traité thérapeutique et critique d'hydrothérapie," Paris, 1875, states the results of a considerable experience as follows: "We have not cured," he says, "the long-standing severe epilepsies appearing to depend upon organic brain lesion, attended by profound modifications of sensibility and motility; but almost constantly in these desperate cases we have rendered the seizures less frequent and less severe. . . . We believe, however, that we have cured some epilepsies developed in youths or adults under the accidental influence of pathogenic causes more or less probable—errors of diet, abuse of alcoholic liquors, excessive coitus or onanism, intense emotion, etc. We do not affirm this (cure), because in cases of this kind the attacks ordinarily occur in the beginning, and often for several years, only at long intervals; and we have not been able to hold these patients under observation for a sufficiently long time to acquire absolute certainty." In conclusion he makes the following definite important statement: "Of all methods of treatment for

epilepsy now known, hydrotherapy offers the most numerous and surest chances for success."

The statement of all the authors consulted agrees with these conclusions of Fleury.

Weiss, Duval, and Delmas report cures. Becquirel, Frank, Rosenthal, Marcet, Nothnagel, and Bottey, all commend the treatment in terms similar to those quoted above.

P. Bricon, in his doctor's thesis upon the treatment of epilepsy, gives the details of a systematic employment of this treatment at the Bicêtre, 1876-1881, in the service of M. Bourneville. An examination of the cases shows that the treatment was usually continued for about two months without cessation; sometimes it was repeated; and in one case extended over five months.

Of 46 cases detailed, 34 showed improvement. In 17 of the latter there was no other treatment; and in 10 of these the improvement was very marked.

Our experience would seem to indicate that, in long-standing cases, improvement is less marked in the first two or three months than it is later. After a certain gain is made improvement becomes more rapid. It therefore seems quite probable that the average treatment at the Bicêtre was too short for the best results.

Another important advantage from the use of hydrotherapy in epilepsy is mentioned by both Fleury and Bottey, namely, in admitting of the use of bromides in large doses, with an important lessening of its ill effects, physical and mental. This is accomplished in two ways: By facilitating and regulating the absorption of the drug it permits us to obtain the same effects from somewhat smaller doses; while on the other hand, by its stimulating and tonic effects upon the organism, as well as by its favorable action upon the elimination of the bromide salt, it incontestably increases tolerance of the drug, and combats its ill effects."

When the character and duration of average asylum cases are taken into account it must be admitted that such results as are here stated are better than those obtained from any drug treatment, both in degree of improvement and in the uniformity of good results in all cases, particularly if we bear in mind that the epilepsy is benefited through improvement in the *general* nutrition, as well as through the more direct agency of improved

nutrition of the neurons. While the results in these twelve cases of epilepsy are most gratifying, they are no better than the average results in the thirty miscellaneous cases of nervous and nutritional disorders; the convulsions in epilepsy affording a definite objective criterion of progress which the others lack, and for want of which their detail would be wearisome and unprofitable.

General Paralysis.

No more severe test of the efficacy of hydric treatment in brain disorders could be devised than its application to general paralysis. Even here it has not failed of positive results in ameliorating the sad condition of these patients, and, as I believe, in determining arrests of the disease. This statement is, of course, made in full view of the fact that spontaneous arrests of a temporary character occur in the natural history of the disease. The annual reports of St. Elizabeth for the years 1896, 1897 and 1898 contain details of twenty-one cases of this disease. Extracts from the last report, consisting of tabular statements and comments, will conclude this paper. The average results after another half-year has passed are not very materially different, though F. E., of the first table, and P. B. M. of the second, are dead; the former from the complications which preceded the beginning of treatment, and the latter from the paralytic attack referred to in note. The malarial complication spoken of is a serious one at this hospital, whose definite influence is, of course, largely a matter of individual opinion; but I do not at this time see any reasons for materially modifying the opinion already expressed.

TABULAR STATEMENT OF THE CASES TREATED IN 1897-8, NOT CONTAINED IN FOLLOWING TABLE.

Name.	Duration of disease prior to treatment.	Duration of treatment.	Result of treatment.	Present status.	Remarks.
W.K., Jr.	7 years....	10 months.	Arrest of disease.	In hospital..	Moderate dementia and emotionality remain.
J. E. T..	1 year.....	7 months..	.....do.....	.....do.....	Slow mental action.
N. L. R..	2 years....	11 months.	Failure.....	.....do.....	Aggravated by malarial toxæmia.
W. C. S..	2¼ years..	1 year.....	Improvement....	.....do.....	do.
T. H. A..	6 months..	...do.....	Improvement followed by failure.	.....do.....	do.
W. J. W.	3 years....	3 months..	.....do.....	.....do.....	do.

TABULAR STATEMENT OF THE CASES TREATED IN 1897-8, NOT CONTAINED IN FOLLOWING TABLE.—*Continued.*

Name.	Duration of disease prior to treatment.	Duration of treatment.	Result of treatment.	Present status.	Remarks.
W. T....	10 months.	4 months..	Remains same....	In hospital..	Rapid progress arrested; has gained 9 pounds in 3 weeks.
F. M	8 months..	7 months..	Arrest of disease.	.....do	Progress retarded by malaria.
W. M....	2 months..	3 weeks ...	Improved.....	.....do	Too early for decisive results.
P. H	1 month...	....do	Not decisive.....	.....do	do.
G. M	5 years	1 year	Marked improvement.	.....do	Arrest of disease up to present time; steady gain; useful on ward.
W. T. N.	7 years	...do	Slight improvement.	.....do	More than maintains condition of one year ago.
E. H. M.	2¼ years..	3 months..	Remains same....	.... do	Vesical and renal complications.
F. E.....	2 years	....do.	.....do.....	.....do	do.

The following tabulation shows the subsequent progress of cases of paresis tabulated in report of 1897:

Name.	Duration before treatment.	Result of treatment.	Present status.	Remarks.	Further history to September, 1898.
J. P. G	Over 1 year.	No improvement.	In hospital .	6 months' treatment.	Condition about same; has improved in last six months.
A. S. McN.	2 years	Some improvement	....do	Third stage of paresis.	Has suffered from malaria, but about holds his own.
J. K. M....	2½ years ..	Marked improvement	....do	Treatment continued.	Slight improvement, notwithstanding attacked by malaria.
P. D.....	Over 2 years.	....do	....do	Failing, Aug., 1897.	Failure arrested; practically same as last year.
R. M.....	....do	....do	....do	Continued treatment.	Remains much improved.
J. B. McD.	1¼ years ..	Complete arrest.	Discharged .	Plays in orchestra.	Remains well after more than three years.
P. B. M[1]...	2 months..	....do	In hospital..	.....	Malarial paroxysms recurrent, and assuming chronic form, have caused renewal of mental disease since January, 1898, with gradual failure of memory and comparative faculty. No delusions. Full doses of quinine cause temporary hallucinations and delusions. Is now again improving.

[1] An apoplectic seizure, with left hemiplegia, coincident with malarial attack, has just occurred at the time of finishing this report.

"It is especially noteworthy that, of the cases detailed, malarial complications have occurred in 6, namely, cases 1, 3, 5, 6, 7, and 8, with immediate and serious consequences. In 9 other cases, making 15 out of 20 cases now under treatment, malaria has entered as an element, more or less seriously modifying the progress of the case. It should be stated parenthetically that great care has been taken in the diagnosis of malarial complications, blood examinations demonstrating the presence of malarial parasites in each case.

Such association of malarial infection with paresis, and with other forms of organic brain disease, is of great practical interest, in both its etiological and pathological aspects.

While it cannot well be ignored in the discussion of these cases, I shall but briefly refer to one or two practical points:

First, the occurrence of the infection in so large a proportion of these cases[1] may well suggest a predisposition to it in paresis, owing to diminished power of resistance in the organism; which would accord with the well-known effects of cerebral disease upon the nutritive functions.

Second, the action of the malarial toxines appears to be greatly exaggerated in many cases of organic brain disease. Among our patients of this class the pernicious cerebral form of disease occurs with a frequency out of all proportion to its occurrence among the sane in this locality; at least it is attended by the usual symptoms of coma and quick fatality, accompanied by venous engorgement and œdema of the entire brain tissue.

The frequency of these cases in our population seems to clearly indicate that organic brain disease predisposes to this pernicious malarial type.

In paresis we have, as prominent pathological features (concomitant with cell degeneration) degenerating vessels, proliferating nuclei engorging the perivascular and pericellular lymph spaces, and venous engorgement. Thus certain prominent pathological changes are practically identical in the two forms of disease, and their concurrence might naturally be expected to exaggerate the destructive changes which are common to both. This

[1] Our records show the occurrence of malarial disease in about 40 per cent of our general population.

is, as a matter of fact, what seems to take place, whether their action is paroxysmal or gradual.

Notwithstanding this complication, a summary of the cases just described shows some positive results:

Out of 21 cases reported the disease has been completely arrested, for the time at least, in 6. One of these, J. B. McD., has now remained well for over three years; one, R. M., for more than two years; two, W. K., Jr., and G. M., have steadily gained for ten months and one year, respectively, and have been free from all mental manifestations of the disease for at least six months.

F. M. has improved steadily, except when suffering from malaria, for seven months; the last four months remaining free from any characteristic symptoms of the disease.

J. E. T. has steadily improved for seven months, and is still gaining in mental tone. Three only are in worse condition than at beginning of treatment.

P. B. M., reported a year ago among the arrests, suffered a return coincident with malarial poisoning. Two others are decidedly improved after one and two years' treatment. Nine having undergone improvements and losses by turn, remain about as they were a year ago, or, at beginning of treatment, when this has continued less than a year.

Is it likely that such a showing could be made in any 21 untreated cases, taken at all stages of the disease? Under like circumstances, can six arrests at one time, with a duration extending from four months to three years, be shown? If not, some value must be conceded to this treatment.

It should be fully understood that reliance is not placed upon hydrotherapy alone in the treatment of these cases. On the contrary, every available means that holds out the promise of benefit to the individual case is strenuously employed. It is only claimed for hydrotherapy that it is the chief remedy; that in some form it is applicable and of benefit to all, and that without its aid the other measures employed could not have produced equally favorable results.

We should also have in mind some standard for gauging results, which will vary with different cases, depending upon the stage of the disease, and especially upon the time during which degenerative changes have progressed.

If we could examine the brain of any paretic in whom the disease had existed, say from three to five years, we should undoubtedly find marked sclerotic and atrophic changes, the attendants upon cell degeneration. If the disease should be permanently arrested in any such case, there must remain more or less permanent loss of cerebral function; that is, there will be more or less secondary dementia, which will be permanent; as is true of any form of chronic insanity which has been, as we say, "cured."

In the case of J. B. McD., with a duration of one and one-half years, the permanent loss is scarcely appreciable. In that of W. K., Jr., of seven years' duration, the limit of improvement has probably been nearly reached. In G. M., five years' duration, improvement has already exceeded what one would expect, and still it slowly continues. In F. M. the period of disease was short, and but little residual impairment is now noticeable.

If one or more of these arrests should prove to be permanent, and the term "cured" applied to it, it would evidently have a somewhat different value in each case. Whatever the term used, it can only mean arrest, with regeneration of such neurons as have not reached the point of hopeless degeneration.

In addition to the cell degeneration there remain also vascular changes which are permanent, and, according to their degree, a source of danger in arrested cases, should conditions arise involving either toxic or congestive strain."

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[5] In this attempt to bring together by title the scattered literature of hydrotherapy it is hoped some advantage will be found, although, after the expenditure of a good deal of time the list is less complete than could be wished. English, German and French works alone are mentioned, to the exclusion of many of value, especially in the Russian and Italian.

Works having to do with mineral waters, sea-bathing, moor-baths, and especially related to private establishments, have been excluded; while, on the other hand, nothing that has come to my knowledge dealing with physiological or experimental researches has been omitted. Considerable valuable material has been found under other titles; and in the same manner much has doubtless escaped attention.

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ABSTRACT OF A HISTORICAL SKETCH OF CANADIAN INSTITUTIONS FOR THE INSANE.

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[The original address was delivered by Dr. T. J. W. Burgess, Superintendent of the Protestant Hospital for Insane, May 25th, 1898, as President of the Geological and Biological Section of the Royal Society of Canada. The abstract is the work of his assistant, Dr. J. V. Anglin.]

Saved by virtue of her youth from participation in the horrible cruelties which stain the annals of the history of the insane from the fall of the Roman empire to the beginning of the present century, Canada has yet no reason to be proud of her early treatment of this unfortunate class. With her, as in nearly all new countries, the care of the insane has shown a gradual process of evolution. We find, first, an era of neglect; then, one of simple custodial care with more or less mechanical restraint; and, finally, the present epoch of progress, in which the various provinces of the Dominion, with the exception of Quebec and Nova Scotia, have accepted the maxim announced by Horace Mann, that the dependent insane are the wards of the state, and as such to be cared for in special governmental institutions. In which epoch also, in the construction of such buildings, the idea of detention is subordinate to that of cure, or, failing cure, that the hospital for the insane shall be no longer a prison but a home.

New Brunswick.

To New Brunswick is due the honor of having been the first of the old British North American provinces to make special provision for its insane.

While the population of the province was yet sparse, and the insane but few in number, each county cared for its lunatics as best it could, the law authorizing "Any two Justices of the

Peace to issue a Warrant for the apprehension of a lunatic or mad person, and cause him to be kept safely locked in some secure place directed and appointed by them, and if they deemed it necessary, to be chained." Under this law the indigent insane were confined in jails and poorhouses, while those able to bear the expense were sent to asylums abroad.

In the early thirties, the lunatics in county institutions had increased to such an extent, and at the same time there were so many others scattered throughout the province whose friends were desirous of having them cared for, that it became absolutely necessary to make some proper provision for their accommodation. We find, accordingly, from the minute-books of the old sessions of the peace, that at the session held in September, 1835, a committee was appointed to prepare a petition to the legislature "for the passing of a law for the better providing for and securing of lunatics within the Province." In December following, the mayor submitted the draft of a bill for establishing a provincial lunatic asylum as prepared by this committee.

The case, however, was too urgent to await the action of the legislature; consequently, as a temporary expedient, at the suggestion of Dr. George P. Peters, a small, wooden building in the city of St. John, originally erected as a cholera hospital in 1832, was converted into an asylum for lunatics. For a description of the structure we are indebted to a letter of Dr. Peters, dated November 28th, 1836. Herein it is stated: "The lower part of the building has been divided into two sides, one for the males and the other for the females. For the purpose of separating as much as possible the more violent from those who appear inclined to conduct themselves in a moderate way, these sides have been subdivided; the male side into a day-room (if a mere passage can be so called) and five sleeping rooms; the female side into a similar day-room and four sleeping rooms."

This institution, the first of the kind in Canada, was situated on Leinster street, not far from the present jail premises, and continued in operation for a little over thirteen years. The date of its opening was November 14th, 1835.

Up to 1843, the establishment was under the superintendence of Mr. George Matthew, then overseer of the poor, with Dr. Peters as visiting medical officer. In that year it was first styled

the Provincial Lunatic Asylum and was placed in the care of a board of commissioners consisting of William Jack, Esq., George Matthew, Esq., and Dr. Peters. The last-named acted also as medical superintendent.

During the first thirteen and a half months of its existence, thirty-one inmates were admitted into the temporary asylum. When abandoned, in 1848, six hundred and fifty-two patients had received the benefits of its treatment. A record preserved in the sessions of the peace minute-book states that of the above thirty-one admissions "there have been discharged—cured, six; improved, five; to friends, not improved, two; died, four. Of the remaining fourteen, one is much improved, two perceptibly improved and eleven without any visible improvement." From the same source we can judge that restraint was employed in the institution, inasmuch as Mr. Matthew, in submitting some accounts, remarked that these were for actual expenses attending the keeping, and that no allowance was made for destruction of house or for furniture, including straight-jackets.

The year after the temporary asylum was opened at St. John, the Lieutenant-Governor of the province, in compliance with a petition of the House of Assembly, appointed commissioners for the purpose of selecting a site for a permanent asylum, preparing a plan of the proposed structure, and estimating the probable cost of land and building.

A few months later, namely, December 2nd, 1836, the commissioners presented an exhaustive report, embracing all the subjects referred to them for consideration. It computed the number of lunatics in the province to be one hundred and thirty, or one in every thousand of the population, and recommended suitable sites. It estimated the cost of buildings at less than £8000, furniture £2000, and land from £700 to £1000, according to the quantity purchased, and dealt with questions of cost of maintenance, amusement, religious instruction and possibilities of cure. Accompanying the report was a plan for the proposed structure, a modification of the asylum at Worcester, Mass.

Little further action was taken, however, until 1845, when a correspondence was entered into between the governments of Nova Scotia, Prince Edward Island, and New Brunswick with a view to the erection of a combined asylum for the three prov-

inces. Toward the furtherance of this object, the Nova Scotia and New Brunswick legislatures appointed commissions to confer on the subject. That of Prince Edward Island declined to do so, preferring the establishment of an institution for itself. The commissioners met in St. John on July 15th, 1845. After a full discussion of the matter they expressed the unanimous opinion that the difficulties attending the foundation of a joint institution were so numerous that they would not be justified in recommending such a course.

At the next session of the House of Assembly, held in 1846, a committee was appointed, to which was referred the question of the erection of a provincial asylum. Their report was to the effect that the accommodation in the temporary asylum was utterly insufficient, and that means should be immediately adopted to provide an institution commensurate with the requirements of the province.

After consideration of this report, the House voted £2500 toward the erection of an asylum for New Brunswick alone, under the direction of commissioners to be appointed by the governor in council, upon a suitable site near St. John. The building commissioners were selected by the governor, but nothing further was done that year as the government failed to approve of the plans submitted by the commissioners.

By an act passed the ensuing year, the legislature appropriated an additional sum of £10,000 for building (in all £12,500) and also £2000 for the purchase of land. The commissioners were by the same act authorized to procure a site and enter into contracts for the erection of a building.

The designs prepared, having been approved of by the government, ground was broken in September, 1846, on a plot of land, forty acres in extent, situated in the parish of Lancaster, less than a mile outside of St. John.

On June 24th, 1847, the corner-stone of the building was laid with masonic honors.

By the autumn of 1848 a portion of the building was so far advanced that on December 12th of that year it was opened by the transfer to it of the ninety patients then resident in the temporary asylum at St. John. The operation of the institution. the legal title of which was, as it still remains, the Provincial Lunatic Asylum, was begun under Dr. Peters, medical superintendent.

On March 27th, 1849, an act was passed by the legislature to make provision for the management of the establishment, and for vesting the property in the Queen's Majesty, her heirs and successors. By the terms of this act there was to be a board, consisting of not less than five, or more than nine, commissioners, appointed by the governor in council to conduct the affairs of the asylum, said commissioners to receive no compensation. This board, of which three were constituted a quorum, was given power to make by-laws, etc., which, however, were to be submitted to both branches of the legislature. Provision was also made for a monthly visitation of the asylum by one or more of the commissioners; half-yearly visitations by the majority of them; and a yearly visitation by the entire board, which had to report to the governor in council. Another provision of the act exempted the medical officer, keepers and under-keepers, and servants of the asylum from service in the militia and on juries.

Toward the close of the first year of the asylum's existence, Dr. Peters retired from the office of medical superintendent, and on December 1st, 1849, Dr. John Waddell was appointed to fill the vacancy, entering on the discharge of his duties on the 6th of that month.

By 1853, the part of the building originally constructed had become filled to overflowing, and a wing was erected on the south side, which gave a temporary relief.

For a number of years there had at different times been complaints with regard to the management of the various provincial institutions under the old Tory (Family Compact) party, and in 1857, after the advent of the Reformers to power, the House of Assembly passed a resolution to the effect that it was in the opinion of the House the duty of the government to cause inquiry to be made into the management of the lunatic asylum, and all other institutions receiving provincial aid, with a view, if possible, to reducing the expenses of maintaining the same. Commissioners were accordingly appointed to inquire into the management of the asylum and other public institutions. Their report was laid before the legislature in 1858. As a result, in 1859, the control of the asylum was vested in the provincial board of works.

In 1861 yet another change was effected by the transfer of the

control of the internal affairs of the institution from the old board of commissioners and their secretary to a new commission consisting of the heads of governmental departments.

The system then adopted still remains in vogue, the commissioners retiring with any change of government.

Prior to 1872, the medical superintendent was allowed no discretion whatever as to the character of patients admitted. Provided the required legal conditions were complied with, he was powerless to refuse any case. All classes were sent to him, and this without any previous application having to be made. The overcrowding of the institution led to the betterment of this state of affairs by the publication, on June 26th of that year, of the following regulation made by the commissioners:

"It is ordered, in consequence of the crowded state of the Lunatic Asylum, that, until further notice, the Medical Superintendent be authorized to exercise his judgment in reference to receiving additional patients. All magistrates and others are therefore notified that, except in the case of Lunatics clearly dangerous and violent, it would be advisable before issuing or procuring warrants of apprehension and commitment, to communicate with Dr. Waddell."

On the 31st of October, 1875, after over twenty-six years of faithful service, Dr. Waddell tendered his resignation as medical superintendent. He was, however, induced to extend his term of office up to May 1st, 1876, that he might induct his successor, Dr. James T. Steeves, into the duties of the position.

On his installation, Dr. Steeves found the asylum much overcrowded. Some additional accommodation had been gained by the conversion of the basements and space over the laundry into dormitories, but at the close of his first year in office, the building, originally calculated to receive two hundred, had no less than two hundred and seventy-six inmates. To meet the emergency he suggested that the north and south wings of the building should each be extended one hundred feet so as to provide room for eighty more patients. A modification of this suggestion was carried into effect on the male side in 1879-80, and on the female side in 1881-82. The relief, however, was but ephemeral. Very soon the building was again crowded, and the problem of providing for those seeking admission became as pressing as before.

Under these circumstances, the government, fully recognizing that all lunatics are properly the wards of the state, determined upon the purchase of additional land and the erection thereon of separate buildings for the chronic insane. In accordance with this plan, in 1885, a farm of two hundred and fifty acres was purchased about a mile from the asylum proper. On this was erected a group of three two-story, brick pavilions for the accommodation of one hundred and fifty patients, with a residence for a steward, who was given the general management of affairs there under supervision of the medical superintendent. The central building and west wing of the group, which is known as the "Annex," were constructed in 1885; the east wing, in 1889.

The system thus inaugurated contemplates the erection of additional pavilions as they are from time to time required, and the transfer to them of quiet, chronic patients from the main, or reception, asylum as that building becomes filled. Here, with extensive agricultural facilities, their employment may be made useful both to themselves and the state.

Ontario.

The first movement toward providing for the insane in the then province of Upper Canada was made in 1830, when the House of Assembly passed an act authorizing the General Quarter Sessions to make provision for the relief of destitute lunatics in the Home District. This act, which in 1833 was extended to all the districts of the province, did not contemplate the erection of an asylum. It proposed merely to legalize the payment for the maintenance of lunatics in county jails, which until then, and for nearly eleven years thereafter, formed the only refuge, other than their homes, for these poor creatures.

The evil of the prevailing state of affairs was clearly recognized. Between 1830 and 1839 numerous attempts were made in the legislature toward the institution of an asylum, all of which, however, proved abortive. In 1831, the York Grand Jury reported in favor of building an asylum, wherein they considered the insane would receive greater care and comfort than was possible in the common jails. During the same year, notice was given in the House of a bill to establish an asylum in connection with York hospital, but it was not presented. In the ses-

sion of 1832-3, a motion was made in the legislature to grant £100 to be expended on plans and estimates for an asylum, but it failed to pass. Next session, 1833-4, a motion was made to grant £6000 for the erection of an asylum, but this also was voted down. In 1835 there was another notice of motion to establish an asylum, but it was not proceeded with. In 1836 a motion to grant £10,000 to defray the expense of building an asylum was made, but did not carry. The same session, a notice of motion for the erection of an asylum by a tax on banks was recorded, but never presented. Again, in the session of 1836-7, notice of motion was given to procure plans and estimates for a suitable building for the insane, but the motion was never made. Finally, on March 15th, 1839, a resolution authorizing a grant of £3000 toward the erection of a lunatic asylum was put and carried by a large majority. An act framed in accordance with this resolution was passed April 24th, and on May 11th received the assent of His Excellency, Sir George Arthur, then Lieutenant-Governor of the province.

Toronto Asylum and its Branches.

That the need of accommodation for the insane was urgent, and that there was no disposition on the part of the people to await the erection of an asylum proper ere this truly afflicted class could be cared for, had been evidenced by the fact that on February 8th, 1840, the House of Assembly had presented an address to the Governor-General of British North America, reading as follows:

"May it please Your Excellency, we, Her Majesty's dutiful and loyal subjects, the Commons of Upper Canada, in Provincial Parliament assembled, humbly pray that Your Excellency will be pleased to direct that a suitable building be provided forthwith as a temporary asylum for the many unfortunate persons afflicted with lunacy in this Province, and beg leave to assure Your Excellency that this House will make good the expense that may be incurred thereby, and in affording relief to such subjects of distress."

At the beginning of the ensuing year, the urgency of the case was made still more apparent when the old York jail, erected in 1824, was abandoned. In its basement cells there had been con-

fined a number of lunatics. It became a question whether these should be transferred with the prisoners to the new jail which had been opened at the east end of the city.

The chairman of the board of commissioners for the erection of a lunatic asylum, took upon himself the responsibility of advising the sheriff to leave them where they were, and having secured the building at a rental of £125 per annum fitted it up as a temporary asylum for their use. This institution, which was opened January 21st, 1841, by the enrollment of seventeen patients, before confined as prisoners, was the first lunatic asylum in the province of Ontario. It was placed in charge of Dr. William Rees, who had long urged upon the government the necessity for such an establishment, and who, in September, 1840, had been nominated medical superintendent of the then proposed, now realized, temporary asylum.

This action of the chairman of commissioners was confirmed by the Lieutenant-Governor, to whom, in his report in September of this same year, Mr. Jamieson thus details the opening of the new establishment, and the happy change wrought thereby in the condition of the wretched prison lunatics:

"The necessary steps were taken as soon as the prisoners were removed to the new goal to render it fit for its new purpose. The building was cleaned and purified, and such repairs external and internal were made, and such furniture, clothing, &c., purchased as were indispensable. The patients (heretofore confined as prisoners) were taken from the cells in which they were closely confined, and where they had long, from the dire necessity of the case, been permitted to remain in filth and nakedness and impure air, all confirming their maladies, and placed in the now purified and airy debtors' room, carefully washed, clothed and placed under medical care, their food critically adapted to their physical state, and in fact everything done which the constant attention of a person devoted to his purpose could effect by the aid of the very limited means we could afford him. The effect of this new course of life was soon apparent; many who had long been confined as confirmed lunatics were found labouring not under mania but under derangement arising from physical causes and yielding to physical remedies. Several have completely recovered who, but for this treatment, would probably

never have exhibited another gleam of reason. So much good could, I am sure, never have been effected by mere occasional visits of a physician however skilful. The state of the asylum and the success with which it has been conducted drew forth the approbation of the Grand Jury who visited it on the 10th of June last. Until the Institution be properly organized and the means of permanent support secured it is not possible to throw it open for the reception of all who need it. There has, however, been a regular succession of new cases admitted, some of which have been successfully treated and the patients discharged."

From the same report we learn that there were admitted during the first half-year seven men and eight women, who, with the eleven men and six women originally prisoners in the jail, made a total of thirty-two patients under treatment. The staff consisted of the medical superintendent, a steward, a housekeeper and two servants, assisted by four persons from the district jail. The total expense for the period stated was £259 5s. 7d., being an average daily expenditure of 1s. 5d. per patient.

The commissioners for the management of the temporary lunatic asylum in their first report, that for 1842, detailed their having met at the asylum, and in compliance with a request of His Excellency framed a code of rules for the conduct of the institution. They also reported having examined the steward's accounts and reduced his charges for the board of each patient from ten to seven shillings per week, and that later they had made arrangements for the board of the patients at six shillings per week.

In the first report of the medical superintendent Dr. Rees expresses his belief in non-restraint, and regrets that they have so little room for exercise, but says he has made the best use possible of the yard and also sent patients out walking on the streets with trusted attendants, and others to the bay to fish.

The old jail, which seems to have afforded accommodation for barely one hundred patients, in a few years, was found inadequate to meet the demands for admission. Additional quarters were therefore sought elsewhere in 1846. The old, red brick parliament buildings, the erection of which had been begun in 1825 and completed in 1833, were then unoccupied, having been disused for legislative purposes since the union of the provinces in 1841.

The increased accommodation required was procured by occupying for asylum purposes the east wing of this structure, supplemented by a rough-cast dwelling-house with a verandah on three sides.

Up to 1850, when they were abandoned, the condition of these temporary establishments was far from creditable, a fact in great measure due to the changes in management which occurred with startling rapidity.

The cause of these frequent changes is to be found in differences between the board of directors and the superintendents. Unfortunately, the act authorizing the creation of an asylum had vested the property in the board of directors instead of in the Crown, thus making them almost independent of the Government, mhile, at the same time it but inadequately defined the position of the superintendent, whose powers were not sufficiently extensive to enable him to enforce discipline. The employees took their orders from the directors, by whom alone, according to the terms of the act, they could be hired or discharged, rather than from the superintendent. The natural result was anarchy and neglect of the patients.

Dr. Rees seems to have fought hard for the necessary authority to carry on the institution in a proper manner, but the commissioners were too strong for him, and, on October 2nd, 1845, he was dismissed.

Dr. Rees was succeeded as medical superintendent by Dr. Walter Telfer. After something over two years' service he was charged with intoxication while on duty and with the appropriation of institution supplies. The evidence against him does not seem to have been at all conclusive, but the result, nevertheless, was his dismissal. Dr. Telfer's removal from office was the cause of a great deal of newspaper controversy, but does not seem in the least to have affected his standing in the community or profession.

The next choice of the commissioners was Dr. Park, whose chief qualification was at the time said to have consisted in his being brother-in-law to Dr. John Rolph, then a man of much political influence. The appointment was made May 31st, 1848. Almost immediately there was the same old difficulty between the superintendent and the commissioners, each claiming su-

preme authority in the engagement and discharge of employees. On one occasion Dr. Park discharged an attendant for drunkenness and insubordination. The board reinstated him. Dr. Park immediately discharged him again. The board reinstated him a second time. The man was finally discharged for some offense that even the board could not condone. On another occasion Dr. Park engaged an attendant and a cook. The board dismissed them. In retaliation, Dr. Park suspended the steward, who had been engaged by the board, and intimated his intention to treat all the attendants similarly. As a result of this the board resigned, but the government refused to accept the resignation. At last the antagonism reached such a pitch that Dr. Park threatened to call in the police to support his authority. Finally, on the 26th of December, 1848, after less than seven months' service, the doctor was dismissed. The charges against him were:

"1. He manifests a disposition to interfere in the general affairs of the Institution. For example, he gives orders respecting the diet of the servants.

"2. He made arrangements with a merchant to supply a quantity of blankets.

"3. He insisted, in defiance of the rules, that he had a right to be present at the meetings of the Board."

Dr. Park gave place to Dr. Primrose, whom the board appointed acting superintendent only, so that, it was currently reported, the position of superintendent of the new asylum, then nearly completed, might be kept open for a Dr. Scott, son-in-law of the Rev. Mr. Roaf, one of the commissioners. Be that as it may, Dr. Primrose retired at the close of 1849, after about eleven months' service, in favor of the aforesaid Dr. Scott.

Of the medical treatment about this period we have the testimony of a disinterested outsider in the person of Mr. J. H. Tuke, brother of the eminent alienist, the late Dr. D. Hack Tuke, who, on visiting Toronto in 1845, made the following entry in his diary:

"TORONTO, Sept. 30th, 1845.—Visited the lunatic asylum. It is one of the most painful and distressing places I ever visited. The house has a terribly dark aspect within and without, and was intended for a prison. There were, perhaps, seventy patients, upon whose faces misery, starvation, and suffering were indelibly

impressed. The doctor pursues the exploded system of constantly cupping, bleeding, blistering and purging his patients; giving them also the smallest quantity of food, and that of the poorest quality. No meat is allowed.

"The foreheads and necks of the patients were nearly all scarred with the marks of former cuppings, or were bandaged from the effects of more recent ones. Many patients were suffering from sore legs, or from blisters on their backs and legs. Every one looked emaciated and wretched. Strongly built men were shrunk to skeletons, and poor idiots were lying on their beds motionless, and as if half dead. Every patient has his or her head shaved. One miserable courtyard was the only airing court for the 60 or 70 patients—men or women. The doctor in response to my questions, and evident disgust, persisted that his was the only method of treating lunatics, and boasted that he employs *no restraint* and that his cures are larger than those in any English or Continental asylum. I left the place sickened with disgust, and could hardly sleep at night, as the images of the suffering patients kept floating before my mind's eye in all the horrors of the revolting scenes I had witnessed."

Luckily, during this early period of squabbling, mismanagement and neglect, the erection of a proper asylum was not altogether lost sight of. Fifty acres of the ordnance department lands at the west end of the city, having been granted for the purpose, a commission was appointed, September 24th, 1844, to superintend the erection of a permanent asylum thereon.

Work was begun June 7th, 1845, and on August 22nd, 1846, the corner-stone was laid with imposing ceremony by the Hon. John Beverly Robinson, Chief Justice of the province, in the presence of the most noted members of the learned professions, the mayor and corporation, the various national societies, and the inhabitants of the city generally.

By January 26th, 1850, the main building was sufficiently advanced to admit of the transfer of the patients, two hundred and eleven in number, from the parliament buildings, old jail, and Bathurst street house. The wings were not completed until 1869 and 1870. This hasty removal was rendered imperative in the case of the first-named edifice by the fact that after the burning of the parliament buildings at Montreal by a mob on the

night of April 25th, 1849, Lord Elgin and his ministers had decided that the two remaining sessions of the existing parliament should be held in Toronto. The old building was, therefore, once more required for legislative purposes, the session having been called for May 14th, 1850.

The official title of the new institution was "The Provincial Lunatic Asylum," which it retained until 1871, when, by statute of Ontario, it became "The Asylum for Insane, Toronto."

The first superintendent of the new establishment was Dr. John Scott, whose appointment dated from January, 1850. As was inevitable under the system of management governing it, differences between the superintendent and the commissioners soon began to crop up. Within eighteen months an attendant made a series of charges against Dr. Scott. Of these the most important were: That his deportment was ungentlemanly; that he called the patients and attendants such names as "lazy brute, sleepy-head," and "sloven"; that he spoke of Dr. Widmer, chairman of the board of commissioners, as "an old fool," and of the matron as "a peacock"; that he refused an attendant leave to see his child when at the point of death; that he put patients on bread and water for bad conduct; that he used a large quantity of institution carrots for his horse; and that he caused a certain suicidal patient to be put alone into a room in which she hanged herself to the bed-post.

The charges were investigated by the commissioners, who reported that the medical superintendent was lacking in consideration to the officers and servants, that he was ill-tempered, and that he at times made unbecoming and injudicious remarks. No action was taken, however.

A few months later one of the city papers published a startling announcement to the effect that the Toronto asylum was being converted into a dissecting-room. A patient, having died at the asylum, the usual inquest was held and the body coffined and sent to the potter's field for burial. The sexton thinking the coffin light, opened it, and found an arm, a leg, and the head missing. Two days later, a box was sent from the asylum for interment. This was found to contain the parts wanting. On these a second investigation was begun, at which it was shown that there had already been an inquest held on the body to which these portions

belonged. The coroner, therefore, decided that a second inquiry was unnecessary. This exposure having caused much excitement among the citizens, the board of commissioners held a meeting at which Dr. Scott admitted that he had removed parts of the body for anatomical purposes. In consequence it was moved that—"The Medical Superintendent, has by his conduct in mutilating the body of a deceased patient, laid himself open to the charge of indiscretion and want of judgment, and that he be and is hereby severely censured and admonished therefor."

After this the difficulties between the superintendent and commissioners grew from bad to worse, and culminated in the resignation of the former, in 1852.

Dr. Scott was succeeded, on July 1st, 1853, by Dr. Joseph Workman, whose labors on behalf of the insane will ever remain one of the brightest spots in the annals of Canadian asylums. Dr. Workman accepted temporary charge of the asylum at the personal solicitation of the Hon. Dr. Rolph, then President of the Council in the Hincks-Morin administration. His appointment was made permanent on April 1st of the following year.

Born in Lisburn, Ireland, in 1805, Dr. Workman came to Canada in 1829, and having entered upon the study of medicine at McGill college, Montreal, graduated therefrom in 1835. In 1836 he removed to Toronto, where he engaged in the hardware business, returning to the practice of his profession in 1846. He was immediately chosen as one of the staff of Dr. Rolph's school of medicine, and for some years filled the chairs of obstetrics and materia medica, gaining at the same time a favorable reputation as an able physician. The wielder of a keen and ready pen, before his appointment as superintendent he had won for himself a prominent position as an original writer and thinker. As superintendent, he was from the first a marked success, and soon became, as he remains to this day, the most noteworthy of Canadian alienists.

Much that is best in the present system of caring for the insane in Canada can be traced to the wisdom of this accomplished gentleman, fittingly styled by Dr. D. Hack Tuke "the Nestor of Canadian alienists." Under his régime mere custodial care, with more or less neglect and cruelty, gave place to a system of kindness and scientific treatment.

The strong point in Dr. Workman's alienistic career was his absolute identification with his patients. His life was spent within the walls of his asylum; he had no thought of being elsewhere. No man ever more thoroughly entered into the insane nature of those around him.

All honor to one who was foremost in the early care and treatment of the insane in Canada! The blessed results of his labors can never be fully estimated, and if ever a man's good works follow him, Dr. Workman will indeed have a rich harvest.

Possessed of much energy and great executive ability, Dr. Workman during his management of Toronto asylum introduced many improvements, one of the first of which was a reconstruction of the drainage. On taking charge he had found three hundred and forty-seven patients in residence, many of whom had frequent attacks of erysipelas, diarrhœa or dysentery. Setting to work to investigate the cause, he soon made the discovery that the whole of the space beneath the basement was one foul and enormous cess-pool. When this was emptied it was found that while the basement drains and main sewer were admirably constructed, by some oversight no connection had been made between them, the result being that nearly four years' accumulation of filth had collected there. The proper junctions made, a reorganization of the ventilating and water-closet systems followed, and there ensued a marked improvement in the general health of the household.

In these and other reforms Dr. Workman was greatly aided by the fact that prior to his assumption of office there had been a radical and much-needed change in the system of governing the asylum. On June 20th, 1853, the old board of twelve directors was replaced by a visiting committee. The act authorizing this change also vested the property in the Crown; placed the appointment of the medical superintendent, as well as that of a bursar, in the hands of the government; and gave to the superintendent power to hire and dismiss all officers and servants other than the bursar.

This new system of control remained in force up to December, 1859, when, under provision of the Consolidated Statutes of Canada, the visiting committee was superseded by the appointment of a board of five inspectors by the legislative assembly.

On taking up the reins of government, Dr. Workman had found the asylum much overcrowded, and this overcrowding was constantly increased by applications to which he was unable to refuse admission.

To relieve this congested condition, in July, 1856, a building, which had been erected as the commencement of the University of King's College, about thirteen years previously, was converted into a supplemental asylum. The new adaptation, known as the University Branch, was placed under the charge of Mr. Robert Blair.

It remained in use for a period of thirteen years, and was abandoned in October, 1869, on the opening of the new female wing of the parent establishment.

The temporary relief from overcrowding thus obtained was soon exhausted, and in the summer of 1859 it was decided by the government to convert the old military barracks at Fort Malden near Amherstburg, into another branch asylum. With the view of effecting this object Dr. Andrew Fisher, one of Dr. Workman's assistants, was appointed medical superintendent, with instructions to have the necessary alterations and repairs effected in the shortest possible time. Dr. Fisher, accompanied by twenty male patients to assist in making the needed changes, reached Fort Malden on July 14th, and by October had so pushed forward the work that he was able to receive another detachment of sixty-four patients from the provincial asylum; and by December, a third. The old barracks, which had done service as a military post during the troubles of 1837 and up to about 1858, were large, two-story with an attic, frame buildings, but ill adapted for asylum purposes, inasmuch as they contained no single rooms, and all the dormitories opened into one another. The situation, however, was excellent. The grounds, fifty-eight acres in extent, afforded ample scope for recreation and agricultural pursuits, and the outlook over the Detroit river was unsurpassed. Malden continued a branch of, and was fed from, Toronto asylum up to September 24th, 1861, when it was made an independent institution, and had assigned to it as feeders the seven adjacent counties. It continued under the administration of its first superintendent up to June, 1868, when, fault having been found with his management, Dr. Fisher resigned, to be succeeded, July 1st, by Dr. Henry Landor.

The year of the conversion of Malden into an independent establishment witnessed the birth, at Orillia, of yet a third child of the provincial lunatic asylum. This, the Orillia Branch, was established in a large, three-story, brick building, which, originally designed for a hotel, but left unfinished, had been purchased, in 1859, for $16,800 by the province of Canada and fitted up as an asylum. It was opened August 13th, 1861, under the charge of Dr. John Ardagh, and continued in operation up to November, 1870, when it was abandoned on the transfer of the patients to a new asylum then opened at London. The services of Dr. Ardagh were at this date dispensed with, there being no longer an institution for him. Intended for the express purpose of housing chronic and incurable lunatics, the Orillia asylum was absolutely dependent upon the Toronto institution, whence all its occupants were transferred with the exception of about a dozen cases admitted direct at various times with the consent of Dr. Workman.

London Asylum.

After confederation of the provinces on July 1st, 1867, the asylums came under the control of the local legislatures, and, in 1868, Ontario adopted the present system of direct governmental supervision, through an inspector appointed for that purpose. The first inspector under the new regulation was J. W. Langmuir, Esq., a man of great energy and extraordinary business capabilities, who did much to place the asylum system of the province on a practical business-like basis.

In his first report, we find Mr. Langmuir urging upon the government the pressing need of increased accommodation for the insane. The urgency of the case was recognized by the legislature, which, in 1869, made an appropriation of $100,000 toward the erection of a new asylum, work upon which was begun immediately. London, as most central to the population it was intended to benefit, was selected as the location of the proposed structure, and three hundred acres of good, arable land were purchased about two miles east of that city. The institution was ready for the reception of patients November 18th, 1870, on which date the inmates of the Orillia branch asylum, one hundred and nineteen in number, arrived. They were followed on the 23rd by those of Malden, numbering two hundred and forty-four.

These supply depots were closed upon the departure of their occupants. Dr. Landor, superintendent at Malden, took charge of the new establishment.

London asylum has been enlarged on several occasions; in 1872, by the creation of a department for idiots. This structure, though insignificant in itself, being capable of housing but thirty-eight inmates, is yet of considerable interest, having been the first building erected in the province for the reception and care of idiots only. Within two months after its opening this little idiot asylum was filled, showing the urgent need for such an establishment. In 1879, it was again adapted to the use of the insane, the idiots being transferred to a new idiot asylum at Orillia.

The year 1877 was a sorrowful one for the asylum at London, witnessing as it did, on January 6th, the death of its first superintendent.

Fortunately, Dr. Landor found a worthy successor in the person of Dr. Richard Maurice Bucke, at that time in charge of the recently created Hamilton asylum. Dr. Bucke assumed the superintendentship February 15th, 1877, and still continues to fill the office with great credit to himself and benefit to the institution. To him is due the introduction into Canada, in 1883, of the non-restraint system, which is now the accepted principle in the treatment of the insane throughout the Ontario institutions. This fact is of special interest, as at that time nearly every American superintendent regarded the doctrine of non-restraint as purely utopian, and to be ridiculed accordingly.

Kingston Asylum.

To follow the origin of what is the second oldest asylum in the province of Ontario, it is now necessary that our steps should be retraced somewhat.

In 1841, John S. Cartwright, Esq., a member of the first parliament after the union of the Canadas, built for himself a fine, stone mansion, with very handsome stables, also of stone, about a hundred yards therefrom. These structures were erected on the Cartwright estate, known as " Rockwood," a tract of about forty acres on the lake shore, a little to the west of the city of Kingston. In October, 1856, thirty-three acres of this estate, including the buildings, were purchased by the Crown as a site for a

criminal lunatic asylum. After the purchase had been completed, the stables were fitted up for the reception of twenty-four female patients, the male patients having been already located in the basement of the penitentiary. This substitute for an asylum was arranged with single rooms for twenty inmates, while a wooden addition made thereto comprised "four strong cells," a "keeper's room," and a dining-room, beyond which again was a kitchen. The size of the single rooms was nine by five feet. They were lighted by miserable, little, barred peep-holes measuring only eighteen by twelve inches. The entrance was on the west side, and a small hallway was used as an office. Dr. J. P. Litchfield had charge of the patients both here and at the penitentiary, his appointment dating from March, 1855. He had his private residence in the Cartwright mansion, where there also dwelt, under his immediate supervision, a well-to-do gentleman of unsound mind. Close by was a small, stone cottage, of still earlier construction, the home of one of the members of the Cartwright family, which at a later date was acquired by the hospital.

The three structures referred to are still in existence, and form parts of the present Kingston asylum, generally known as Rockwood Asylum, or Hospital. The old stables have reverted to their original use; the small, stone house is the north cottage, occupied by quiet female patients; and the new residence of the Cartwright family is the dwelling of the medical superintendent.

Three years after the opening of the institution, namely, September, 1859, the erection of the present asylum was begun.

The new building was erected chiefly by convict labor, occupying over eight years in construction. The centre building and east wing were the portions first built. In 1862, a part of the former was sufficiently advanced to admit of its being temporarily fitted up for the reception of twenty-one men, whose removal from the basement of the penitentiary greatly relieved the pressure there. On March 24th, 1865, the building was formally opened by the transfer to it of the rest of the male patients. By the end of 1867, the west wing for women was virtually completed, although not opened until early in 1868, when the stable-asylum was vacated. The asylum was constructed of coursed, cut stone from the penitentiary quarries. It was continued under the superintendence of Dr. Litchfield up to his death, December

18th, 1868, when Dr. J. R. Dickson, surgeon of the penitentiary, was appointed to the position.

Rockwood, as already stated, was intended for insane criminals and the criminal insane only, but, the Toronto asylum being full, friends, in their anxiety to have insane relatives placed in safe-keeping, perhaps also with the object of saving themselves the cost of transport to that institution, soon found a means to evade the law, which but inadequately safe-guarded the real purpose of the establishment. The process of evasion was simply to have the poor lunatic committed to jail as dangerous, whether really so or not. To prevent this abuse, we find the inspectors, as early as 1862, recommending that Rockwood should be used as a general, as well as a criminal, asylum.

At Confederation the asylums and jails passed into the hands of the provincial government, with the exception of Rockwood, which as a part of the penitentiary remained under the same supervision.

By this time, lack of accommodation in the provincial asylum at Toronto had made it necessary to send many of the insane to the common jails for safe-keeping, where they soon became so numerous that it was absolutely requisite to take immediate steps to remedy the evil. Negotiations were accordingly entered into with the Dominion government whereby, in 1868, the "Act respecting a Lunatic Asylum for Criminal Convicts" was repealed, and arrangements concluded for the reception of one hundred to one hundred and fifty of these poor creatures into Rockwood asylum, it being distinctly understood with the authorities of that institution, that all insane persons thus sent from the jails of the province would be kept entirely separate from the criminal portion of the population. The rate of maintenance was fixed at $143 per annum, and permission was given the inspector of Ontario institutions to visit, unofficially, for the purpose of seeing the patients sent in and paid for by that province. This, as pointed out by the inspector, was practically the "farming out" system of maintaining lunatics, and that, too, without the supervision of the government paying for such maintenance. To abrogate this the legislative assembly, in 1871, adopted a resolution affirming the advisability of the province's acquiring Rockwood asylum, either by purchase or lease. A corresponding resolution passed the

Dominion parliament authorizing negotiations for its transfer to the province. It was not, however, until July 1st, 1877, that the Ontario government took possession of Rockwood, purchasing the buildings and grounds for $96,500. As soon as the property was handed over by the Dominion authorities, the insane convicts of unexpired sentence then in the asylum, twenty-two in number, were transferred to the penitentiary, where a special detached building has since been provided for this class of patients. Dr. Dickson, who had earnestly advocated the change, was retained as superintendent of the new provincial establishment, the name of which was changed from Rockwood asylum to "The Asylum for Insane, Kingston."

Quebec.

Quebec is the only one of the provinces of the Dominion in which there are no state institutions for the care of the insane, its provision for this unfortunate class consisting of four proprietary establishments, and one incorporated, charitable institution. The former are the Quebec Lunatic Asylum, St. Jean de Dieu Asylum, St. Julien Asylum, and Baie St. Paul Asylum; the latter is the Protestant Hospital for the Insane, situated on the outskirts of Montreal.

Beauport Asylum.

The Quebec Lunatic Asylum, formerly known as Beauport Asylum, is the oldest of the Quebec institutions, having entered upon the fifty-fourth year of its existence.

During early times, if harmless, lunatics were allowed to wander about at will, or cared for at home; if dangerous, they were incarcerated in jails like ordinary criminals. Toward the close of last century, an act was passed authorizing an appropriation for insane persons in the province of Lower Canada, at the rate of one shilling and eight pence each per day. Under this act the insane were intrusted to the care of certain religious communities in the districts of Montreal, Three Rivers, and Quebec. These communities, however, possessed no proper places or means for the care of the unhappy creatures, who were generally shut up in damp, separate cells, and sometimes chained. Strong representations were made from time to time by different grand juries of the unfitness of these receptacles, and of the general

ill-treatment accorded the wretched inmates, but for many years the system remained unchanged. Their inability to cope properly with the task they had assumed, was soon recognized by the religious bodies, and, in justice to them, it must be said they repeatedly urged the pressing necessity of better accommodation for the lunatics under their care.

By 1845, the number of the insane had increased to such an extent that the provision of a special institution for them had become a crying necessity. The government, however, was unwilling, or unable, to undertake the creation of such a structure. Under these circumstances, the idea was taken up by three prominent physicians of the city of Quebec, James Douglas, Joseph Morrin, and Charles J. Fremont. The governor-general of Canada warmly encouraged the project by promising the support of the government. He also undertook the removal to the proposed establishment, when fitted up, of all the lunatics then confined in the general hospital at Quebec, the nunnery at Three Rivers, and the jail at Montreal.

The proposers of the scheme at once set about its accomplishment. To this end they acquired by lease a property once the manor-house of M. Giffard, seigneur of Beauport. It was situated in the parish of Beauport, whence the name of the asylum, and comprised about two hundred acres of land commanding a magnificent view of the city and harbor of Quebec. There was in addition to the family mansion, which was a large, two-story, stone edifice, an extensive block of outbuildings, also of stone.

By the 15th of September, 1845, the establishment had been prepared for the reception of one hundred and twenty patients, and on that date the lunatics in charge of the religious ladies of the general hospital of Quebec were removed thither. They numbered twenty-three. Of these poor creatures, one had been confined twenty-eight years, and several upwards of twenty years, in small, dark, stone cells, which they had never been allowed to leave. Their delight upon again being restored to light and comparative freedom can well be imagined. The story of the removal is thus dramatically given:

"They were removed in open carriages and in cabs. They offered no resistance—on the contrary, they were delighted with the ride, and the view of the city, the river, trees, and the passers-

by excited in them the most pleasurable emotions. On their arrival at the Asylum at Beauport, they were placed together at table to breakfast, and it was most interesting to witness the propriety of their conduct, to watch their actions, to listen to their conversation with each other, and to remark the amazement with which they regarded everything around them. All traces of ferocity, turbulence, and noise had suddenly vanished, they found themselves again in the world, and treated like rational beings, and they endeavoured to behave as such. One, a man of education and talents, whose mind was in fragments, but whose recollection of a confinement of 28 years was most vivid, wandered from window to window. He saw Quebec and knew it to be a city; he knew ships and boats on the river and bay, but could not comprehend steamers. Before leaving the General Hospital the Nuns had clothed him well and given him a pair of shoes. He remarked that he had been a long time shut up, and that it was 19 years since he had last seen leather. Another, a man who had been confined 20 years, and who had always evinced a turbulent disposition, demanded a broom and commenced sweeping; he insisted on the others employing themselves also; he observed, 'These poor people are all fools, and if you will give me a constable's staff, you will see how I will manage them, and make them work.'"

On September 28th the patients confined in Montreal jail, fifty-two in number, were transferred, followed, on October 5th, by those in Three Rivers, numbering seven. The condition of the latter was much more wretched than that of those from Quebec and Montreal. Some of them had been for years kept fastened to staples driven into the floors of their cells, and all arrived at Beauport chained and handcuffed.

The agreement of the proprietors of Beauport with the government was that they should be paid at the rate of $143 annually for each public patient, said sum to include board, lodging and medical treatment. The last was immediately directed by Dr. A. Von Iffland, who was appointed resident physician.

Being subsidized by the State, the establishment was placed under the supervision of a board of commissioners.

The first contract of the proprietors with the government for the care of the insane from the different districts of Lower Can-

ada, which had been for a term of three years, expired October 1st, 1848. On its renewal for a further period of seven years, they determined to seek fresh quarters for their charges. This step was rendered necessary by the fact that the original building was capable of accommodating one hundred and twenty patients only, whereas the number on the date of the expiration of the contract had reached one hundred and thirty, with every prospect of a speedy increase. A fine property of one hundred and seventy acres, lying near the St. Lawrence, was accordingly purchased. It was located in the parish of St. Roch, on the "Chemin de la Canardière," about a mile from the parent institution. Here, in 1848, was begun the erection of a new asylum, which was opened in April, 1850. With the change of location the name of the establishment was altered from Beauport asylum to the Quebec Lunatic Asylum. The latter remains the official title of the institution, though it is still often designated by its old appellation, Beauport.

In February, 1854, the western, or female, wing of the building was destroyed by fire. Providentially, the conflagration was unattended by loss of life. Through the kindness of the government the patients, numbering ninety-eight, were accommodated in a part of the Marine Hospital, where they remained up to May following. At that date they were transferred to a large, two-story, stone building, adjoining the asylum premises, leased for the purpose and subsequently purchased from Mr. O. L. Richardson. This new addition was sometimes known as the "White House" from its being brilliantly whitewashed; sometimes as the "Richardson House," from the name of its former owner. In the meantime, a contract had been let for rebuilding the wing destroyed. The work was pushed rapidly on, and the women were soon enabled to take possession of their new home, the "White House" being reserved for the reception of male patients of dirty habits.

At the close of the year 1859, the asylums and prisons of the united provinces of Upper and Lower Canada were placed under the control of a board of inspectors. Beauport, however, as private property and in all matters of internal economy subject to the proprietors only, passed but partially within the jurisdiction of this board. The members thereof had no power to give

orders respecting its management, their duties being limited to inspecting and making report of its condition. The inspectors, in their first report, complained of the overcrowded condition of the institution, and strongly urged the necessity for the foundation of another asylum for the western part of the province. The services of a resident physician having been dispensed with by the proprietors, probably on the score of economy, the board also regretted the want of such an official.

The want was remedied in 1863, when the proprietors once more appointed a resident physician, Dr. L. Catellier.

In 1860, Dr. Morrin disposed of his interest in the establishment to Drs. Douglas and Fremont, and, the latter dying in 1862, his share was purchased by Dr. J. E. Landry. Under the new management extensive improvements to obviate the overcrowding which the inspectors had complained of, were determined on. These improvements, which consisted in the reconstruction of the main building and the erection of two additional wings, were begun in the spring of 1863. In January, 1864, the new premises were occupied.

The institution as thus reorganized, although offering comfortable accommodation for four hundred and fifty patients, was soon again found inadequate to meet the ever-increasing demands for admission. The proprietors, accordingly, in August, 1864, began the erection of a large, detached building, capable of housing three hundred inmates. It was designed to occupy the site of the annex known as the "White" or "Richardson House," which had to be pulled down to make way for it. In consequence of this, some of the ninety patients lodged therein had to be crowded into the main building, and others received in a cottage originally intended for the family of one of the officers. Work was pushed forward so vigorously that by April, 1865, the building was sufficiently advanced to admit of the removal to it of one hundred patients from the main asylum. By September of that year, the edifice was completed. The new structure was devoted exclusively to men, the main building being reserved for women. Fifty acres of land were at the same time added to the property by purchase, bringing the total area up to two hundred and twenty-five.

In reporting on this new annex and the additions made to the

main structure in 1863, the inspectors strongly condemned the system adopted of placing the dormitories, like prison cells, back to back, with no light other than that coming from the corridor in front of them through small openings in the doors. The idea seems to have been gradually forcing itself on them, that the comfort and welfare of the patients were, in the estimation of the proprietors, considerations entirely secondary to the money to be made out of them.

During 1865, in addition to the board of commissioners, which still continued in existence, and the board of inspectors, the government decided to assign a visiting physician to Beauport, said officer to be named by the Governor-General, but paid by the proprietors.

The records of patients, as kept at this time in Beauport, were of the loosest, nor were the proprietors altogether to blame, as evidenced by their complaining, in their annual report for 1866, that in cases sent to them from jails they were rarely furnished with any information other than the name of the patient. This cause of complaint was stated to have existed for over twenty years, and, as a consequence, there were many patients in the asylum about whom literally nothing beyond the name was known, and not always that to a certainty. They, therefore, asked the government to insist that the jail surgeons should send a proper history of each case. This was done, the result being a great improvement in the statistical registers of the asylum.

At Confederation, the old board of inspectors ceased to exist as regarded the supervision of lunatic asylums, which became purely provincial institutions. It was replaced by a new one, appointed by the government of the province of Quebec.

On January 29th, 1875, Beauport was again visited by fire, this time unfortunately with fatal results. As before, the women's department was the scene of the conflagration, which resulted in the death of twenty-six of the inmates, and the destruction of much of the main edifice. The patients thus deprived of shelter were housed in the various outbuildings, and cottages of the employees, while the work of reconstruction was proceeded with. No time was lost, and by the end of September the building was again habitable.

In November, 1879, the board of commissioners, in existence

since the inception of the establishment, was abolished, and an additional visiting physician appointed in the person of Dr. A. Vallée.

About 1880, differences began to arise between the government, on the one hand, and the proprietors of Beauport and the more recently created St. Jean de Dieu asylum, on the other. These differences had reference to the care bestowed upon the patients by the proprietors, and the degree of governmental supervision to be exercised over the admissions. That the complaints of the government were not without cause, was clearly shown through a report made by Dr. D. Hack Tuke. This world-renowned alienist, after visiting the asylums of the province in the summer of 1884, arraigned in no measured terms the "farming out," or contract system; the general care given the patients; the excessive amount of restraint employed; and the lack of power vested in the government visiting physicians.

This exposé by Dr. Tuke led the Medico-Chirurgical Society of Montreal to pass a series of resolutions condemning the condition of the asylums, and calling upon the government to institute a thorough investigation, and to take action thereon. This was done, and in 1885 an act was passed placing the medical control of these establishments in the hands of the government, which reserved to itself the appointment of a medical superintendent and assistant physicians for each of them. These officers, in each asylum, constituted a medical board, to which was given supreme control in all matters relating to the admission and discharge of patients. The care and treatment of the inmates were also placed under its direction, the proprietors being bound to carry out all recommendations made. By this law, Dr. A. Vallée, previously government visiting physician, became the first medical superintendent of Beauport.

The resistance offered to reform by the proprietors of the two asylums was strenuous and persistent. The result was that, in September, 1887, a Royal Commission was constituted to inquire into the difficulties which had arisen in consequence of the attempt to enforce the statute, and whether it exceeded the rights which the government held under its contracts with the proprietors.

The conclusions arrived at by the commission with regard to Beauport were, that the institution was much behind those of

other countries in many important details, and that the proprietors were not fulfilling the conditions of their contract with the government. On these grounds, they recommended the cancellation of the contract, the acquirement of the asylum by the government, and the commitment of its internal administration to a religious community, said commitment to be safe-guarded by confining the rôle of the religieuses exclusively to the domestic and administrative management. The commission also condemned, on general principles, the "farming out" system, and enunciated the doctrine, that the medical superintendent "should be the head of the establishment, be in authority and have under his own absolute direction the medical, moral and dietetic treatment of the patients."

The recommendation of the commission, as regarded the cancellation of the Beauport contract, was not acted upon, but steps were taken to remedy some of the graver abuses. On its expiration, however, in April, 1893, the asylum passed by purchase from the hands of its former proprietors into those of the Sisters of Charity of Quebec, with whom the government made a fresh agreement for the maintenance of the public insane at $100 annually per head.

Under the new contract, the medical control was kept in the hands of the government, and Dr. Vallée became medical superintendent *ipso facto* as well as *ipso jure*. In the hands of this gentleman, who, with his assistants, is paid by the province, was vested the entire management of the institution as regarded admissions, discharges, and all matters pertaining to treatment, both medical and moral. Dr. Vallée soon proved himself well fitted to wield the increased powers intrusted to him. Under his directions, the Sisters in 1893 in the women's building, and in 1894 in the men's, went to a large expense in making changes and improvements. In treatment the non-restraint system has been adopted.

St. Johns Asylum.

As already stated, the board of inspectors of asylums and prisons, constituted in 1859, had pointed out in the strongest possible terms the greatly overcrowded state of the Beauport asylum and the urgent necessity for the creation of another institution. The government, accordingly, in 1861, responded to their recom-

mendation by proposing to convert the old military barracks at Fort St. Johns, which had been given up by the Imperial authorities to the provincial government, into an asylum for the western half of Lower Canada. To this end, Mr. J. C. Taché, one of the inspectors, and Dr. Workman of Toronto asylum, were commissioned to visit the buildings with a view to reporting what was necessary to be done in order to fit them for their new use. The visit was made, and Dr. Henry Howard of Montreal, who had been appointed medical superintendent, on June 6th, had almost completed the arrangements recommended, when the threatening prospect of a war with the United States, owing to the Trent Affair, compelled the Home government to resume the occupancy of Fort St. Johns for purposes of defence.

Under these circumstances, Dr. Howard advised that an old building in St. Johns, formerly used as a court-house, should be made to answer for a few months as a temporary asylum for fifty patients, twenty-five of each sex. Being instructed to take immediate possession and fit it up as such, he at once set to work, and on August 27th, was able to receive eleven patients sent to him. By the end of the year the admissions had amounted to forty-eight.

The inspectors, on their first visit to the institution, styled the Provincial Lunatic Asylum, while commending the arrangements made by Dr. Howard as the best possible under the circumstances, condemned the establishment as altogether unsuited for an asylum, and quite inadequate to the wants of the province.

Dr. Howard labored under great disadvantages, and one of the most serious difficulties he had to encounter was to provide for the proper washing of his patients with dirty habits. How this was overcome is best described in his own words:

"I had only one temporary bath erected in an out-house, and which could not be used in cold weather; but even had I two or three of these baths to wash these patients as often as it was necessary, it would have been an endless task. In fact, I cannot conceive how it is possible, by the slow process of baths, to maintain cleanliness among the inmates of a lunatic asylum. Under this impression, I have lately effected a temporary arrangement, which I have found most valuable. This is a cell which, under ordinary circumstances, will answer for the confinement of an

unruly patient for a couple of hours; but the purpose for which I erected it was a washing place. It is three feet square, the floor an inclined plane, terminating in a sewer which connects with a wash-pipe. In the cell the patient is placed naked; or if his clothes are very dirty, he is allowed at first to keep them on; to wash him I then use the hose of a small fire engine, by means of which he is thoroughly cleaned, and immediately after taken out and rubbed by means of a coarse towel. The water used is tepid. Not only has a great saving in time and labor been effected by this means, but I really believe that it has had the moral consequence of making the patient clean in his habits; whilst the friction on the skin with the coarse rubbers has had a most excellent effect, as every one who has been accustomed to the care of lunatics knows the peculiar and offensive exudation from the skin, and how beneficial constant washing must be. Besides which, a first ablution of this character completely removes the vermin with which many, particularly such as have been confined in jails, are literally covered."

Dr. Howard also speaks strongly in favor of exercise, employment, amusement, good nourishment, and kindness as the main factors in treatment, but naïvely adds:—"It must not be presumed that punishment is never resorted to for the control of the unruly and disobedient. But when deemed advisable and necessary, this consists of a few hours' confinement in a cell, or a deprivation of one meal, or both combined. It is surprising how the lunatic, even, is subdued by confinement and a hungry stomach."

Year after year the inspectors and superintendent protested against the continued occupation of this building, but year after year it remained in use. The overcrowding, at the same time, instead of being lessened, increased. To such a degree was this carried, that, by the close of 1864, into a space far too contracted for fifty patients, as originally intended, there were actually packed sixty-four human beings. The horrible condition of affairs resulting was strikingly pointed out by one of the board, Dr. F. Z. Tassé, in 1866. By actual measurement he showed that there were but two hundred and twenty-one cubic feet of airspace for each patient, whereas the best writers on hygiene recommended that not less than eight hundred to one thousand

cubic feet, or even more, should be allowed. Continuing, he stated: "To this evil" (overcrowding) "is added the utter impossibility of providing them with employment, the recreation of walking, the sight of the country, and that variety of occupation which is the basis of all remedial agents, and which ought to be procured for them at any cost."

At length, the spirit of economy provoked the action which common humanity should have dictated long before. The year 1875 saw the closing of the first and, so far, the only government institution for the care of the insane in the province of Quebec. State care, in this respect at least, has from that time been a thing unknown. At St. Johns, as is certain to be the case in all small establishments, the cost of maintenance had always been much higher than at Beauport, or in any of the Ontario institutions, amounting annually to considerably over $200 per head. On this account, the government, in 1873, accepted an offer made by the Sisters of Charity to receive the idiots, then supported at the public expense, into their hospital at Longue Pointe, and to maintain them at the rate of $100 each per annum. This led to the removal, in that year, of thirty-four of this class who were among the inmates at St. Johns asylum. In 1875, when a like contract was made with the Sisters to receive the insane, the remaining patients were transferred therefrom, and the institution was finally closed, July 20th, 1875. The medical superintendent, Dr. Howard, accompanied the patients, receiving the appointment of government visiting physician to St. Jean de Dieu asylum, and assuming duty as such, August 1st, 1875.

Longue Pointe Asylum.

L'Hospice St. Jean de Dieu, or, as it is commonly called "Longue Pointe Asylum," from its being situated near the village of that name, is the property of Les Sœurs de Charité de la Providence. It owes its origin to a wealthy, retired merchant, one Jean Baptiste Gamelin, who, in 1823, had married a Miss Emélie Tavernier. The three children born of this union dying in infancy, the worthy couple adopted an idiot child. Monsieur Gamelin, at the time of his death, which occurred in Montreal, October 1st, 1827, confided this child to the special care of his wife, in these terms: "Continue de prendre soin de cet infortuné,

en souvenir de moi et pour mon amour." This request was piously fulfilled by Madame Gamelin, who, in addition, consecrated her life, as well as the fortune that had been left her, to the relief of the poor and afflicted, and became the foundress of the community known as the Sisters of Providence.

From the beginning, in memory of her husband, Madame Gamelin proposed that the care of the idiotic and the insane should be one of the charitable works of the order. Consequently, in November, 1845, a little, wooden house, from the color of its exterior called among the sisters "The Yellow House (Maison Jaune)," was appropriated as the habitation of a few lunatics. It was situated in the garden of the first establishment of the sisters, at the corner of St. Catherine and St. Hubert streets in Montreal, and was placed in charge of Sister Assumption, *née* Brady, who is reputed to have had special tact in soothing her patients by singing hymns to them.

The number that could be cared for in this modest retreat, the pioneer institution for the insane in the district of Montreal, was necessarily very small. In 1850, the Rev. Mère Gamelin, with Sister Ignace and Abbé Truteau, visited several asylums in the United States, their object being to examine into the management of these establishments with a view to the extension of their own sphere of usefulness. They returned fully resolved to pursue their good work on a larger scale.

The Community at this time had a farm near the village of Longue Pointe, about five miles from Montreal, known as the "Mission St. Isidore." This had been given to the sisters by the parish of Longue Pointe under certain conditions, one of which was that they should establish thereon a school for female children. In 1852, the parish still further assisted the order by helping it to acquire an additional property situated in the village on the banks of the St. Lawrence. To the buildings on this ground was given the name "Convent St. Isidore," and thither the Sisters removed their school. At the same time, in order to carry out the wishes of the lamented foundress of the order, as well as to meet the urgent requests made to them from all sides, they fitted up the buildings thus vacated on the St. Isidore farm as an asylum for lunatics. To this institution they removed the patients from the "Maison Jaune," placing them in charge of

Sister Praxède, afterwards one of the foundresses of the Oregon mission of the order. In October, 1852, the new establishment thus instituted was consecrated by Monseigneur Bourget, who placed it under the protection of St. Jean de Dieu. This was done in commemoration of a saint, who, confined as a madman by people incapable of comprehending the sublimity of his charity, had rewarded his persecutors by founding, at Madrid, two hospitals, for the insane and the poor.

Ignorant of the care of lunatics, the Sisters labored under great difficulties in their pious undertaking. Up to 1856, the number of the insane under their charge at one time was never more than seventeen to twenty. In that year the Community decided to transfer the patients from the farm to the Convent St. Isidore.

In 1863, the Sisters erected an additional structure in the court-yard of the convent, on the edge of the village street. It was connected with the main building by a covered passage way, and devoted exclusively to the insane. In constructing it the old buildings on St. Isidore farm were pulled down, and the materials used in the new edifice. With this demolition disappeared the original St. Jean de Dieu asylum, and there now remain to mark the spot where it stood only some clumps of trees and bushes, which indicate the situation of the old garden cultivated by the Sisters. The convent buildings, including those used for the insane, are still in existence, and in almost the identical condition in which they were at the period of which we speak.

Notwithstanding the additions made, it was yet difficult to receive more than twenty to twenty-five patients in the convent buildings, so that it became a matter of great concern to the Sisters how they should meet the ever-increasing demands made on their charity.

The parish of St. François d'Assisi de la Longue Pointe, which is the full title of this noteworthy locality, had for priest at this time M. Jean Baptiste Drapeau. He was a man of sound judgment, and one who took a deep interest in all the charitable works of the Community, but especially in those relating to the care of the insane. To him occurred the idea of a hospital for these poor creatures on a larger scale—one combining all the conditions demanded by modern science for their proper treatment. With the object of carrying out his idea, he advised the

acquisition of a large demesne situated near the convent, which he thought would make an admirable site for the institution of which he dreamed. The resources of the Sisters, however, were but limited, and it was not until 1868 that they were able to accomplish this. The land thus acquired was not made use of until a few years later, when, with the sanction of the legislature, the Order entered upon the work of caring for the insane on a greatly enlarged scale.

The fact that Beauport asylum was much overcrowded, and that the temporary institution created at St. Johns was not only in like condition but badly adapted to asylum purposes, had been strongly urged upon the government. In consequence, the then Premier of the province, on September 27th, 1873, entered into an agreement with the Sisters of Providence whereby the latter engaged for a term of five years to receive and care for idiots of both sexes. The contract was signed, October 4th, and by November 7th the government had sent to the Sisters at Longue Pointe thirty-four patients from the asylum at St. Johns, thirty-eight from Beauport asylum, and five from outside, making a total of seventy-seven.

St. Isidore convent was quite inadequate for the accommodation of this number of patients, and the Sisters accordingly had to find room elsewhere, pending the erection of a new asylum which they had now decided to construct. The additional room was gained by the rental of the "Hochelaga," or "Hussar Barracks," then empty. These were stone buildings which had formerly been occupied by the troops stationed in Montreal. Their new apartments were taken possession of by the Sisters on November 7th, 1873, and, on November 30th, they celebrated their first mass therein, an altar having been erected in one of the hallways. They were devoted entirely to male patients, the convent buildings being reserved for females.

As one hundred and twelve was the greatest number of patients that could be provided for in the Hochelaga buildings, it soon became evident that the erection of the new asylum must be hastened. The first question to be decided was, what plan of building should be adopted. To settle this, the Sisters visited a number of asylums, finally selecting that of Mount Hope, Baltimore, Md., as the general model on which to construct their new establishment.

Work was begun in April, 1874, and such was the vigor with which Sister Thérèse, the head of the establishment, pressed it on, that by July 20th, 1875, they were able to begin the transfer of the patients from the old barracks. Their evacuation was completed by August 14th, and shortly after the convent St. Isidore was also emptied of its inmates.

In July, 1875, the Sisters entered into a new contract with the government, by which, for the space of twenty years, they agreed to receive and care for all insane, as well as idiotic patients, at the rate of $100 a year for each patient sent them. The government on its part covenanted that the number of patients placed in charge of the Sisters should not be less than three hundred, including those already under their care. As a result of this agreement the temporary asylum at St. Johns was closed, and the inmates transferred to the custody of the Sisters.

Under the new arrangement, so rapid was the increase in population that, at the close of the year 1875, it had reached four hundred and eight. This rate of growth continued, and in 1884 and 1885 it became imperative to extend the already large establishment.

About 1880, as already referred to in speaking of Beauport asylum, difficulties between the government and the Sisters began to spring up. At one time, Dr. Howard, the government physician, represented to Sister Thérèse that in his opinion several of the patients had recovered, and recommended their discharge. This recommendation was met by refusal. Appeal was then made to the provincial secretary, who supported Dr. Howard. The discharge of the patients was, however, still refused, and only by the exercise of the civil authority was obedience enforced. Immediately following this came the publication of Dr. Tuke's report on the asylums of Canada, in which those of Quebec were shown to contrast most unfavorably with those of the sister province of Ontario. Severe as had been Dr. Tuke's arraignment of Beauport, it was infinitely mild in comparison with his merciless criticism of the Longue Pointe institution.

The result of this exposure, and the strenuous protests of the Montreal Medico-Chirurgical Society against the continuance of such a state of affairs, was the passage by the government of the act of 1885, and the appointment of Dr. Howard as first medical superintendent, with greatly increased powers.

The passage of this act served still further to embitter Sister Thérèse, who at once appointed another medical staff of her own.

The constant efforts made to hamper the government officials in the discharge of their duties resulted in the constitution of the Royal Commission of 1887. The report of this body with regard to Longue Pointe asylum, while giving full credit to the cleanliness of the institution, and the good food and clothing supplied the patients, showed clearly there were many points connected with the management that required radical reorganization. The most blameworthy state of affairs set forth was, that while under the law of 1885 the government medical officers were constituted a part of the administrative staff of the asylum, the Sisters refused to receive them as aught but visiting physicians, and formally declined to allow them to carry out the duties imposed upon them by that law, under the plea that it was a breach of their contract. They went even further and denied them the privileges they had exercised as visiting physicians prior to 1885, refused to give them any information, and forbade the keepers to answer any questions they might put to them. The government medical officers had absolutely no authority beyond the supervision of the admissions and discharges—were not even allowed to have keys by which they could enter the wards alone, but always on their visits had to be accompanied by some of the Sisters.

On the most eminent legal advice, the commission, in spite of the evil state of affairs which they recognized as prevailing, could report only that the act of 1885 did conflict with the rights of the Sisters as defined by their contract with the government. In consequence, they could but suggest the repeal of the conflicting claims until the expiration of the contract, when the act as a whole might be made a part of any new agreement. This was accomplished in 1897.

Protestant Hospital for the Insane.

The Protestant Hospital for the Insane, or, as it is more commonly called, Verdun Hospital, owes its inception to Mr. Alfred ("Fred") Perry, a well-known citizen of Montreal. From a period antedating Confederation, Mr. Perry had taken a deep interest in the subject of the care of the insane, and, in the foundation of Longue Pointe asylum, had given valuable assistance to

Sister Thérèse. While granting the Sisters full credit for the care bestowed upon their helpless charges, he yet observed that it was merely custodial care with little or no effort to bring about recovery. This was but the natural outcome of the "farming out" system, in which the interests of proprietors and patients are at direct variance, a fact Mr. Perry was not slow to grasp. A man of strong will, with great energy and tenacity of purpose, he resolved that at least the Protestant community should be freed from a system that was a standing menace to their proper treatment, and, about 1879, began to devote himself to the task of seeing whether the existing state of affairs could be remedied.

After many interviews with various members of the government, Mr. Perry found that it would be impossible to disturb the arrangements that had been made with the Sisters, and thereupon conceived the bold idea of founding a separate institution for his co-religionists. Having ascertained that the government had no objection whatever to the Protestants of the province establishing an asylum for the care of their own insane, provided it was done at their own cost, Mr. Perry straightway proceeded to call a public meeting, at which the whole subject was discussed.

At this meeting, in 1880, Mr. Perry, in conjunction with others, was appointed to take steps in the direction indicated. Several informal meetings were held by these gentlemen, and it was found that they were all, with the exception of Mr. Perry, in favor of the erection of an asylum which should be open to Roman Catholics as well as Protestants, but conducted on different principles from the proprietary establishments. Mr. Perry, however, held out staunchly for his own views, and was, in consequence, soon left to battle alone, the committee, as such, ceasing to exist. Innumerable difficulties met him in the prosecution of his scheme, but, with unflagging zeal, he continued his efforts, and on June 30th, 1881, secured the passage of a bill entitled "An Act to Incorporate the Protestant Hospital for the Insane."

The act provided that all moneys raised by the Corporation, from whatever source, should be expended upon the institution and its inmates; that the general management of affairs should be invested in a Board of Governors, being Protestants and residents within the province of Quebec, said board to be composed of all life-governors, twenty-four elective governors, and all prop-

erly constituted representatives of churches and national societies; that the immediate conduct of the establishment should be vested in a board of management, elected from the board of governors and not less than twelve in number, who should act for three years, one-third retiring annually; that a meeting of the subscribers to the institution should be called by the parties incorporated, within six months after the passing of the act, for the purpose of organizing the Corporation; and that the Corporation should, every year, within the first fifteen days of the session of the legislature, make a full return to the Lieutenant-Governor and to both Houses, showing the state of its affairs and of its receipts and expenditure.

The Corporation was also given the power to frame by-laws for the management of the affairs of the hospital and the guidance of its employees. Two hundred dollars were fixed as the sum constituting a life-governor, and ten dollars as that constituting an elective governor. The payment of a subscription of twenty dollars gave any Protestant church within the province, or any Protestant national society, the right of appointing a governor for the year for which this amount was subscribed.

For a time public interest in the institution languished but the publication of Dr. Tuke's scathing denunciation of the wretched condition of the inmates of the asylums at Quebec and Longue Pointe, and the resolutions of the Medico-Chirurgical Society based thereon, once more aroused public feeling to the great need for an improved state of affairs. The result was, that soon after the passage of these resolutions, in November, 1884, a deputation was appointed to wait upon the government for the purpose of urging a reform in the management of the insane in the province, and ascertaining what it was willing to do in the matter of the Protestants, about two hundred of whom, it was estimated, were confined in the two proprietary establishments. At this interview the members of the government stated that they were willing to do all in their power to facilitate the transfer of Protestants from Longue Pointe asylum to the proposed hospital, and agreed to lend the Corporation $25,000, at six per cent interest, toward the erection of a building, this sum to be repaid in ten equal annual instalments, the first of which was to become due five years from the date of the loan.

On May 30th, 1887, the Hadley Farm was purchased for the sum of $18,000 as the site for the hospital. Situated in the municipality of Verdun, whence the name by which the hospital is often designated, just at the foot of the Lachine Rapids, the location chosen was an admirable and extremely picturesque one. The mountain rising behind crowned with green woods, its lower slopes dotted with villas; the mighty St. Lawrence, with its timbered islands, stretching in front; and the dancing rapids, with their musical roar, in such close proximity, made a prospect of scenic beauty difficult to surpass.

Plans and specifications for a building to accommodate two hundred and fifty inmates, the cost not to exceed $80,000, were advertised for. Those prepared by Messrs. J. W. & E. C. Hopkins, as most nearly approaching the conditions of the advertisement, were approved of. A condition of the approval was, that a committee of governors, accompanied by one of the architects, should visit some of the principal asylums in the United States, and any improvement in the plans suggested by this visit should be incorporated in them.

The highest level of the property having been selected as the position for the building, the work of excavation was begun in June, 1888.

The first patient was received into the hospital on July 15th, 1890, and before the end of that year there had been one hundred and thirty-nine admissions. Fifty-eight of these, thirty-nine men and nineteen women, came from Longue Pointe asylum. No patients were received from the Beauport institution at this time, inasmuch as by the terms of its contract with the proprietors, the government had no power to remove any of the inmates therefrom, unless recovered. In 1894, however, this contract having expired, a number of the Protestant insane were transferred to Verdun. One of these had been a resident of the Quebec asylum over forty-eight years. Since its opening this institution has been conducted on purely non-restraint principles.

Prince Edward Island.

Pursuant to a request made by the Home Government, the legislative council of Prince Edward Island, in 1840, passed "An Act to authorize the erection of a building, near Charlotte-

town, as an Asylum for Insane Persons and other objects of charity, and to provide for the future maintenance of the same." In 1845 this act was put in force by the erection of a brick structure designed to hold about twenty-five patients, one-half in single rooms. The property purchased for the establishment consisted of a plot of ten acres, located at Brighton on York River, about one and a quarter miles from Charlottetown. The administration of its affairs was vested in a board of trustees.

At the first meeting of the board, held April 2nd, 1846, it was resolved that an advertisement should be inserted in the newspapers for parties qualified to fill the several positions of medical officer, master and matron. At the next subsequent meeting, Dr. Mackieson was appointed visiting medical officer at a salary of £25 currency per annum, to be paid extra for all drugs supplied for the use of the patients, and Sergeant Samuel W. Mitchell and wife were made master and matron.

The first order for admission was given by the board May 1st, 1847, when eight patients were directed to be received. On June 14th, following, however, less than a month after their admission, these unfortunates were ordered to be discharged, and the asylum was transferred to the government to be used as a hospital for some immigrants, who had arrived on the barque, "Lady Constable," suffering from Asiatic cholera.

On the 28th of January, 1848, the Executive Council restored the asylum to the care of the trustees, and on the 26th of June it was again opened for its legitimate purposes by the admission of five lunatics and five paupers.

From 1847, when it was first opened, until 1869, the building was used for an asylum and a poorhouse, but in the latter year it was found too small for the combined occupancy, and the paupers were removed to an old military barrack situated about half a mile distant.

At first, the master received a certain sum per head for the lunatics and paupers under his care. The amount paid him varied from eight shillings and two pence to ten shillings per week, and included every expense connected with their maintenance except the salaries of himself, the matron and the medical officer. After a trial of four years this method did not prove satisfactory to the trustees; the supplies, therefore, were ordered

to be obtained by tender. In the early days, too, the medical officer visited the institution but once or twice a week, and the master and matron did all the household work without the aid of servants or attendants, depending solely upon the help obtained from the patients or paupers.

In 1874, a presentment against the management of the asylum was made by the grand jury, after one of its official visits. The medical officer and master were both indicted for what was called "the horrible abuse of the patients"; the whole province was thrown into an uproar, and the Home Government sent a censuring dispatch to that of the Island in the matter. The immediate result was a change in management, the officers indicted being dismissed, and Dr. Mackieson succeeded in office, after a tenure of over twenty-eight years, by the present able superintendent, Dr. Edward S. Blanchard, who assumed duty in August, 1874. The ultimate result was a movement toward the founding of a new and more modern hospital to replace the old and antiquated lunatic asylum. The movement thus started led to the passage, in 1877, of a new lunacy act providing for the erection of the "Prince Edward Island Hospital for the Insane," the abolishing of the office of visiting medical officer, and the creation of that of medical superintendent in its stead; the new official to be provided with quarters in the building, and to devote his whole time to the institution.

Nova Scotia.

Nova Scotia was the last of the old British North American provinces to erect a hospital for its insane. Previous to 1858, pauper lunatics were sent to the "Lunatic Ward" of the Provincial and City Poor's Asylum in Halifax, or cared for at home, in what way can be imagined.

In 1846, the Governor of Nova Scotia appointed a commission to visit the United States in quest of information with reference to the construction and management of a hospital for the insane for the province of Nova Scotia.

For some years after, efforts were made to establish the institution, and both private donations and legislative grants were made for the purpose. It was not, however, until 1856 that the corner-stone of the present hospital, the first and only one in the province, was laid with Masonic honors on June 8th.

The executive officers took possession of their temporary quarters on the first day of December, 1858, the first medical superintendent being Dr. J. R. DeWolf, who had been appointed such in May of the previous year. On the 26th of the same month the first patient was admitted, and within the next four weeks eighteen others were received, thirteen of the number being transfers from the poor's asylum. The Nova Scotia hospital for the insane bears the honor of having had its site selected by Dorothea L. Dix, who, as a further mark of her sympathy for suffering humanity, gave a collection of pictures to ornament the hospital walls.

British Columbia.

In the early days of British Columbia, when it was yet a Crown colony, lunatics were placed in the colonial jail, a brick structure which stood on the present site of the Law Courts.

In 1872, two women (sisters) became insane, and as there was no proper place in the jail for them, they, as well as the male patients therein, were removed to a wooden building on the Songhees Indian Reserve. This structure, the first regular institution for the insane in the province, had been originally built for a smallpox hospital, then added to and used as a general hospital, and finally abandoned. It was reopened to receive the lunatics from the jail, October 12th, 1872, the records for that year showing eighteen admissions, one recovery, and one death.

Up to 1873 no act had been passed for the founding or regulation of asylums, but in that year one, known as the "Insane Asylums' Act," came into force. It fixed the title of the infant establishment as "Asylum for the Insane, British Columbia." This act was amended in 1893, and, together with the amendment, repealed in 1897, a new one, the "Hospitals for Insane Act," replacing it. By this the official title of the asylum was changed to "Public Hospital for Insane."

Early in 1877 it was deemed expedient, in consequence of the asylum's being on an Indian reserve and in the city of Victoria, to remove it elsewhere, but there was no suitable site belonging to the government near the city. It was, therefore, decided that the transfer should be to the mainland, where, close to the town of New Westminster, there was a large tract of provincial land.

Some fifteen acres of this, most of it dense, unclaimed forest, was apportioned to an asylum. Here the nucleus of the present institution was erected in 1877, and opened May 17th, 1878, on which date forty-six patients were transferred from the old smallpox hospital at Victoria. Situated on a cleared slope overlooking the Fraser River, and taking in a magnificent panorama of mountain and stream, nothing could exceed the scenic beauty of the site selected.

Manitoba.

In proportion to its age, the province of Manitoba is well furnished with accommodation for its insane, having two asylums, one at Selkirk, the other at Brandon.

Previous to 1871 there seems to have been no provision for lunatics. Amongst the sparse population of the province, while it was yet a part of the old Hudson's Bay Company territory, cases of insanity were few and those few, so far as I can learn, were generally of a quiet, demented type, and as such allowed to wander about at will, or cared for by their friends and neighbors.

Among the Indians insanity was not at all common. It was usual for them, and many of the half-breeds, to attribute the origin of this affliction to the action of some evil charm, or the administration of some noxious potion, "Indian medicine," obtained by an enemy from one of the many "medicine men." There was also an implicit belief, that if a counter-remedy, or charm, could be procured from a "medicine man" having greater power than he from whom the offending one had been derived, the patient could be quickly cured.

Arguing from this, it seems very probable that some of the comparatively few afflicted were cured by faith; some, by the treatment which was not always quite void of value; while the balance, who were not amenable to cure by either of these means, succumbed to the successive ministrations of the rival "medicine men." There was little need, therefore, in the early days of the Hudson's Bay Company to make any provision for the chronic insane.

Cases of acute mania, especially if violent, were generally got rid of in a much more speedy manner. Those so afflicted were supposed to be possessed by a cannibal spirit or *windigo*, and

being thus a menace to other members of the tribe were promptly shot or otherwise disposed of without any ceremony. I have been informed that within the last two or three years a case of this kind occurred near Battleford, N. W. T., an Indian being sent to the penitentiary for life on account of having killed one of his female relatives in the belief that, being insane, she would devour some of the other members of the family.

In 1871, the Dominion Government established the Manitoba Penitentiary at Lower Fort Garry (Stone Fort), twenty miles north of Fort Garry, now Winnipeg. One of the old, stone storehouses of the Hudson's Bay Company, previously used for the confinement of Lepine, Riel's Adjutant-General, and some of his fellow-revolutionists, was fitted up for penitentiary purposes, and here, from 1871 to 1877, the insane were cared for.

In the latter year the lunatics, together with the convicts, were removed to Stony Mountain where the present penitentiary had been erected. They remained there up to 1885, when they were sent back to their old quarters at Lower Fort Garry, pending the opening of the asylum at Selkirk in 1886.

Editorial Correspondence

THE INSANE IN THE ANTILLES.

From the phantasmagoria of one's impressions of a cruise to the West Indies and Windward Isles, lasting but one month and covering eight islands, to separate such as relate to the care of the insane in those "old unwandered waste ways of the world," and to gather them up into a brief paper for the JOURNAL is a task from which a prudent man might well shrink. These remarks are submitted with the distinct understanding that they record impressions only, for in rushing from pillar to post one had not time to do more than observe superficially the material conditions of insane life and note certain marked points of difference between the ways and means of a strange people and our own. I am aware, too, that fairness demands that in making such comparisons as force themselves upon his notice, the traveller should bear constantly in mind the sane standards of life outside, and not expect in public institutions a condition of things in disharmony with the stage of evolution of the people under consideration.

The U. S. M. S. "Paris" sailed from New York March 4, 1899. She reached San Juan, Puerto Rico, four days later. On our way to the Morro our guide called our attention to a large building, facing U. S. Headquarters, that had been much shattered by Admiral Sampson's shells. It was the Orphan and Lunatic Asylum under the immediate control of a Roman Catholic sisterhood. The Mother Superior was evidently disinclined to disclose to a New York visitor the "*muy pobre*" conditions under which her insane charges were cared for, but after many apologies led the way into the men's quarters. The building was unlike anything of the kind I had heretofore seen. The rooms opened in quadrangular fashion on to a spacious court, and on its four sides were arched corridors. A well occupied the central space

of this yard. The doors of the single rooms suggested in their iron-bound massiveness the entrance to some mediæval castle. In each was a wicket through which the patient could be observed without opening the door. Never had I seen so many precautions taken to secure the safe-keeping of a helpless madman. When a clumsy key had been turned in a great lock of primitive construction, when a rusty bolt had been withdrawn and the great door thrown back on its creaking hinges, the spectacle within was sickening. There was a crouching figure, naked and filthy, that presently rose from the reeking floor of his cell and jabbered incoherently with the attendant. Room after room with this kind of occupant was seen. There were no sanitary conveniences, no beds. All was dark, gloomy, foul. These patients were described as *muy furioso*, though to me they seemed more like cases of dementia, not one of whom needing the restraint that was here deemed necessary for the sake of safety. It is but just to say that the Mother Superior expressed pity in voice and gesture for these wretched creatures, and that some of the women patients seized and kissed her hand in evident affection. The male attendant who accompanied us was also kind and distributed tobacco freely, so long as his supply lasted, among the men and women who begged it. A few patients were employed in sewing in the corridors, but the men were apparently without employment of any kind. There were dormitories in the second story in which the quieter patients slept, but even here there were strong single rooms partitioned off for a few violent ones. From one of these latter, when its shutters had been opened, a beautiful view of the harbor could be seen. It was the only thing that thus far one could commend, and I was especially glad that my meagre Spanish vocabulary contained the words "*linda vista*" to express that approval. One may add, too, that the chapel was a clean and well-kept corner of the establishment. Another praiseworthy feature was the care taken to filter the drinking water and preserve it from contamination. I wish I might say more in favorable criticism. There were fifty-six insane patients in this noisome place. Certainly no more instructive object-lesson could be given these benighted Puertoriqueños than that which the erection and maintenance of a modern hospital for the insane would furnish. Speed the day!

No pretense seems to be made to care for the insane in St. Thomas after modern methods. The barracks in which I found fourteen insane men and women confined at Charlotte Amelia on March 8th is a discredit to that otherwise fair Danish colony. Unfortunately the doctor was not on the premises. In his absence the honors were done by a kindly but consequential negro, with a remarkable fondness for long words. The insane are here bunched in with a promiscuous herd of other sick folk. The single rooms, measuring about 10′ x 12′, of a cheap, one-story wooden building, contained both male and female patients. The doors were of solid construction and bolted and barred as if wild beasts were behind them. The rooms contained no furniture worthy the name. The patients either wore little clothing or none at all. In one of these rooms, opened for my inspection by my colored male guide, a naked woman, also of color, was engaged in bathing herself with such meagre appurtenances (a small washbowl on the floor) as the place afforded. The negro made no apology for the intrusion, neither did the negress appear to resent it. He simply asked in a tone of benevolent enquiry, as bending forward on his cane he peered into the corner of the room through his enormous goggles, which were also colored, "Are yo' takin' yo' bath, Mary?" Mary's occupation was too evident to be denied, but I was much impressed with the relations of confidence and intimacy which the question of my nonchalant guide seemed to imply. In the middle of the floor of some of the rooms was a heavy iron ring, whose purpose it was easy to guess. It was to "punish them," the negro frankly explained. "You see, sah, the doctor has shown great partiality to these patients at times and they have taken undue advantage of him, sah, so that it is sometimes necessary to have *re*course to hostilities." The unction with which these long words were rolled off his glib tongue, as well as the phrase itself, were simply delicious. I have never bestowed a douceur less grudgingly upon an usher, black or white. He confided in me as we parted that St. Thomas did not satisfy his ambitions and that he fain would find in New York a wider and more lucrative field of usefulness.

On Sunday, March 12th, I visited the Asylum at Bridgetown, Barbados. Here my experience was of a very different character. The superintendent, Dr. Field, was found reading Plato

in the original Greek when I disturbed his leisure. By his side was a Greek dictionary. This novel experience, although for a moment taking my breath away, was refreshing: I had never seen a medical superintendent poring over Plato by way of recreation, though I have little doubt we have among our brethren not a few classical scholars. The asylum is a new stone building, having been opened as lately as 1893. It had 346 patients on the day of my visit, the patients being equally divided as to sex. Here I found evidence of intelligent care. The patients' quarters were spacious, with abundance of air. There were large airing courts. The floors, when not of pine, were of cement and clean, and the walls were immaculate in whitewash. The plumbing was modern and good. The large dining-hall had a cement floor and contained stout tables and benches. The plates and cups were of tin. The kitchen was roomy and its sanded floor was clean. The kitchen furniture was of modern English make. The furniture, it is true, was plain; there were no pictures to be seen and few of the comforts which we are accustomed to see in our American asylums. But it must be remembered that the people for whose benefit the institution is maintained have few creature comforts in their own homes. Theirs being an outdoor life, provision for indoor living is after all a secondary matter. What strikes one everywhere in these tropical institutions is the unnecessary massiveness and strength of the ironwork. Fortunately the climate permits a wide-openness and there is no lack of air, but it is difficult to avoid the suggestion of a menagerie cage which some of these places create. And, after all, many of the patients—the majority impress one as degenerates—are not much higher in the scale of existence than the anthropoid ape. The higher types of insanity are not found among them. Dr. Field informed me that he had no cases of g. p. and that paranoia was quite uncommon. Of epileptics and idiots there were many in evidence. For beds canvas stretched tightly on a frame is used. Bed covering is rarely necessary. Nowhere did I see patients working, as we understand the word work. The native negro is naturally an indolent fellow, and the very liberal poor laws of Barbados are calculated to enervate him still more. "If they don't choose to work, they are provided for," was Dr. Field's assurance to me. All the medical work of this hospital is done by the superintendent

himself, who prefers not "to bother with an assistant." For his 346 patients he has fifteen attendants on each side and a head attendant. The women receive $7, $8, and $10 per month; the men $8, $10 and $12. The head attendants receive $300. The steward has a salary of $500. For the evening meal ginger tea was brewing. This is a not uncommon dish in the tropics as a substitute for tea properly so-called and, as a personal test, proved not a bad drink. For the rest they subsist largely upon fish and vegetables, such as rice, yams, squash, ochra. Two strange practices prevail at this hospital. One that is said to work admirably is the discharge of all patients upon a twelve months' parole. The other is the requirement that a post-mortem shall be held by an outsider in the case of every death. For this service the officiating physician gets a fee of three guineas. It is difficult to understand why this is done in a colony in which it is confessedly difficult to make both ends meet. It is but another evidence of the excessive officialism with which some of these West Indian islands are plagued. In final comment upon this asylum one may say that the patients looked well and appeared contented. One could not but rejoice that its scholarly superintendent was capable of finding recreation upon a high plane as a relief from the prosaic and arduous duties of his position. Barbadians, by the way, are often highly educated, especially as classical scholars. At one time no fewer than seven English bishops had received their education at Codrington College, Barbados. Great tales were told me of the prowess in scholarship of Barbadians. The Professor of Roman History in Brasenose College, Oxford, and the Master of Exeter College are both Barbadians, educated in native schools. No great wonder that Dr. Field reads Plato when some of us might be reading the Sunday edition of a New York paper.

Four days after this visit (March 16) I was at St. Pierre, Martinique, inspecting the so-called *Maison Coloniale de Santé.* The Martinique blue book says of this place that nothing has been neglected to bring it abreast of the best institutions of France.[1]

[1] "Cet établissement, créé en 1837, par les soins de M. Lemaire, est situé dans une des positions les plus pittoresques de Saint-Pierre. Sa destination spéciale est le traitement des aliénés, rien n'a été négligé dans cette maison pour la mettre en harmonie avec les plus beaux établissements de la France."

Inspection of the premises showed the facts to be quite otherwise. In an interview with the senior visiting physician, Dr. Morestin, a general practitioner of St. Pierre, I learned that the owner of the establishment was one M. Delatouche, "propriétaire de la France." The director is named by the local administration and paid by the proprietor. There were two visiting physicians in charge of the men and women respectively. Private patients paid according to their means, while a fixed rate was charged for those maintained at public expense. There were in all about 200 patients, only eight of whom were white. In this preliminary interview the amiable physician prepared me for what I was to see on the morrow by describing the method of caring for the disturbed patients (*les furieux*). He spoke of a restraint chair that conjured up some fabled monster for occupant, of the *camisole de force* and of the infernal noise (*bruit infernal*) that might be heard in the morning owing to the "electricity of the air" or the "ozone" that excited them. I was to meet him at 8 o'clock the following morning, the doctor's regular visiting hour being half an hour earlier, and afterwards breakfast with his family. It had seemed to me that in the island of Puerto Rico the lowest grade of care had been reached, but this so-called "house of health," to translate literally the French euphemism for asylum, was infinitely worse in every particular. It is impossible to convey in words a picture of the horror of it all. The structural arrangements resembled in the main those of the San Juan asylum, but the building was in worse repair. I do not trust myself to estimate the number of patients whom I saw in the most barbarous restraint. Never had I seen patients confined under such inhuman conditions. The damp, dark vaulted cells had walls at least eighteen inches in thickness. The great, ponderous doors were bolted, barred and locked. The only light that entered these cavernous places was the few rays that penetrated an iron wicket that did duty as window. At the threshold, just inside the room, was an open moat-like gutter to which the floor of this chamber of horrors pitched. Occupying the middle space was a colossal chair of rude construction firmly secured to the floor. Its seat was provided with a hole. On that seat was pinioned a naked patient in a way that to me was entirely new but cruelly effective. Through the arms of the chair passed an

inch rod, one end of which had a rivet head while the other was secured by means of an iron wedge driven home with a mallet. The space between this rod and the back of the chair was sufficiently narrow to prevent movement of the body but left arms and legs free, unless, as sometimes happens, the camisole is also used as an additional precaution. I saw several patients restrained in this way. Their condition as to bodily cleanliness can be better imagined than described. Whether they were kept in these chairs all night I did not enquire, although it seemed likely. In some of these cells two planks from wall to wall, supported on cleats, served as beds. In other places an inclined plane, such as one sees in some prisons, was used as sleeping accommodation for patients of the quieter sort. Men and women were restrained alike in the cruel fashion I have tried to describe. They all seemed to live a common life with the animals about the place—pigs, dogs, poultry, men all huddled together in the greatest confusion with little oversight on the part of attendants. One woman was restrained to an iron bracket with what looked like a length of canvas fire-hose because she pulled out the feathers of the chickens and ate their eggs. Another poor creature, who was pinioned to a chair, showed a lame arm which was caused, so she said, by rough handling by the man who forcibly dragged her to the bath. It was a common thing, I was informed, to have the men assist at this function where the women patients resisted. But worst of all was the so-called *salle des douches*. This reminded me of the description left by Pliny Earle of the douche at Salpêtrière as he saw it in 1838.[1] Here was a restraint chair higher than those I had already seen. In this the recalcitrant patient is seated and upon his poor defenceless head and shoulders falls a stream an inch thick at high pressure, while an attendant plays upon his vile body with a hose from another quarter of the room. This treatment is adopted when the patient is "méchant," and the effect is said to be all that is desired. The repulsive black attendant in charge showed me these things with evident glee. All this has a sensational sound as I read over what has just been written, but in fact it is an understatement. And yet it did not appear to me a wanton cruelty. The

[1] American Journal of Insanity, January, 1899, page 552.

sister who accompanied us and my Martinique colleague were both kindly people. Seemingly they knew no better way. Certainly Dr. Morestin (he had been educated in France and his uncle was an army surgeon in Martinique under Napoleon) impressed me favorably and treated me with the utmost graciousness and hospitality. It seems a poor requital for all that kindness thus to expose the institution of which he is the visiting physician, but the facts surely should be proclaimed in all their horribleness.

The Lunatic Asylum at Kingston, Jamaica, was in refreshing contrast with the gruesome conditions just described. I visited this institution on March 20 and 21 and was cordially welcomed by Dr. J. W. Plaxton, the superintendent, and Dr. Williams, one of his assistants. Dr. Plaxton is an old West Riding assistant and has also seen service in Ceylon, and Dr. Williams had been trained at Hanwell and other British asylums. The institution has accommodation for 600 patients. It contained 776 at the time of my visit. A new plain but substantial and well-planned building is almost ready to take care of this surplus. The asylum stands in 100 acres of land, including 36 acres in the new "pen." The patients' quarters were scrupulously clean. Arrangements for ventilation were admirable (this is a simple problem in the tropics, by the way) and there was everywhere an absence of odor. Great benefit had been derived from the substitution of asphalt for wooden floors, dysentery having been entirely stamped out by this simple expedient. The rooms were whitewashed, and in the corner of those occupied by untidy patients was a device that commended itself at once by its simple efficiency. It consisted of a small box-like projection made of stone or cement, the top of which was a seat with a hole. This box contained a chamber which could be removed only from the outside. In other rooms a niche in the wall took the place of the projection, and the vessel was removable only in the same way. The institution had a fine dining-room—to all intents and purposes it was in the open air—measuring about 125 ft. by 50 ft. Airing courts were large and abundantly shaded by cotton trees, mangoes, lignum vitæ, palms, flamboyant trees, etc. There was also a good shower-bath for the patients, as well as other appurtenances of modern sanitation. Among the patients were a great number of

coolies, who, by the way, furnish the higher types of insanity in these colored populations. They show a tendency to insanity of melancholic bias, and Dr. Plaxton informed me that the number of these insane Hindoos is out of all proportion to their number in the colony, his explanation being that they were in all probability men of unstable brains when they left British India to engage in contract labor in Jamaica. There were a few cases of leprosy, several cases of leucoderma, as well as a number of patients who suffered from skin affections involving chiefly the feet, with a tendency to abscess and gangrene. Deaths from pulmonary disease were said to be numerous, it being difficult to isolate these cases. There had also been cases of yellow fever, one of them having died in the asylum during the previous year. General paresis, paranoia and the alternating psychoses are rare. Of 72 patients discharged during the previous year, 68 had recovered, 2 were improved, 2 unimproved. 69 patients died. The death-rate calculated on the total number under treatment was 7.45. The number of cases under treatment in the hospital during the previous year was 926, at a net cost to the public of £13,528 13s. 1d., say about $73 per capita. The new building, which will accommodate 500 patients, will have cost about £40,000, say about $400 per capita, including 36 acres of land. In view of the very plain character of the building, this price seems quite large from an American point of view. The ironwork, of which there is an abundance and which is imported from England, and the large amount of asphalt and cement used in construction, no doubt bring up the cost. There is very little interior woodwork and that is of the plainest character. The attendants are all colored, the head attendant alone being white. The ratio of attendants is from 1 to 15 or 20. Attendants lodge themselves outside. I noticed some strapping women among them, 5 ft. 10 in. and even 6 ft. tall. They were uniformed, the men wearing a neat Holland suit with red cuffs and collars. The attendants were of a low order of intelligence, could read and write but not much more. Their language was to me a patois only partially intelligible. I was informed that their ideas of morality as affecting the sexual relations were of the crudest kind. Indeed, a woman seems to be in disfavor with her sex, including herself, until she has demonstrated her capacity to reproduce the species. One attendant,

I was told, who had remained chaste was stigmatized by her fellows as a hermaphrodite and so plagued by them that she was compelled to leave the service. This activity in reproduction affects continuity of service quite seriously. Married attendants often support a lazy husband by their labor, although I was told that men could control the labor of their mistresses in this way much better than when they were married, the women in such circumstances being anxious to retain the goodwill of their lover by good conduct. The only advantage which the married relation seems to offer from the point of view of the Jamaican negro is that it permits the couple formally to join the church. Dr. Plaxton was evidently not hopeful in discussing these problems. The unmorality of the people shows itself in other directions, even in their proverbial philosophy. The Jamaican negro is much given to larceny: "One tief no like to see 'nodder tief carry long bag." And yet he justifies himself at the expense of the white man with this other proverb: "When black man tief, him tief half-a-bit; when buckra tief, him tief de whole estate." It has happened, not infrequently, I was informed, in the parochial councils that it has been necessary for the Governor to exercise his prerogative to dismiss the members and appoint a commission to administer affairs pending a re-election. And affairs are likely to grow worse before they improve. "Things must fuse before they re-crystallize," was Dr. Plaxton's sage reflection. Notwithstanding all these depressing circumstances, the superintendent maintains a keen scientific interest in his work and was on the day of my visit working industriously with his microscope investigating the disease called "yaws" which had attacked his poultry. Other things being equal, Dr. Plaxton informed me he always preferred attendants who had been brought up in the Moravian faith, there being a large number of Moravians in the island. Attendants are paid 10 to 15 and 18 shillings per week and find themselves out of these wages. Laborers get from 1s. 6d. to 2s. per day; masons and plasterers, 3s. to 4s.; carpenters, 2s. 9d. to 4s.; painters, 2s. 3d. to 3s. As to expenses of living, bread is 6d. per pound; sugar, 2d. per pound; coffee, 1s.; fresh fish, 6d; fresh beef, 6d.; yams, 1d.; American potatoes, 2d.; butter, 2s., 1s. 6d., 1s. 3d. per pound. A generous dinner was cooking for the patients on the day of my visit.

It included yams, salt fish and a salad consisting of lettuce, tomatoes and cucumbers.

The quarters for the insane at New Providence, Nassau, which I visited on March 31st, were of the crudest kind. They form part of the general hospital, called asylum, for the sick. There were 27 patients in all: 13 men and 14 women. Little or nothing was done for the men, who were comparatively quiet, cases apparently of dementia. The colored man in charge showed me his notes with evident pride, from which I learned that "Samuel Bowleg continues silly and worrysome," and that "Shadrach Wemyss continues quiet and rational." The quarters for disturbed women were not in keeping with the accommodations elsewhere. Four were in seclusion of the worst kind, confined behind heavily barred and bolted doors, noisy, profane and obscene. As I happened to be there at meal time, I noticed that a man accompanied the woman attendant with their food, the man being present evidently to meet any emergency that might arise requiring his superior strength. The colored-women attendants are said to be great cowards. The doors were unbolted and unlocked hastily, the food thrust into the room on a tin plate, the door was banged to again, and the incident closed. A new building for the insane men had just been finished. It was not occupied. This resembled in general appearance a cheap hotel in the Adirondack wilderness. The hardware looked as though it had come out of the ark, and the plain, clumsy woodwork had only the questionable merit of great strength to recommend it. Its porch commands one of the most beautiful views we had seen in the tropics. As we left the asylum three leper boys, inmates, solicited alms at the gate.

This was the last of the asylums inspected, as its great distance from the city of Havana prevented a visit to the institution at Mazorra.

G. ALDER BLUMER.

Notes and Comment

THE JOURNAL OF MENTAL SCIENCE.—The official organ of the Medico-Psychological Association of Great Britain and Ireland opens its forty-fifth volume with an increase in size, new type and paper.

We desire to congratulate the Association and the editors of the Journal upon the improved appearance of their periodical, and to express the hope that the change will open an era of increasing usefulness and prosperity for the Journal.

The Journal of Mental Science under the editorial direction of such men as Bucknill, Maudsley, Clouston, Tuke and Savage has been an active agent in the advance of psychiatry both in England and elsewhere, and deserves the hearty support and commendation of all interested in the care of the insane.

THE NEW SECRETARY OF THE MARYLAND LUNACY COMMISSION.—The Lunacy Commission of the State of Maryland has made a most excellent selection in the appointment of Dr. George J. Preston as secretary, vice Dr. Wm. Lee, deceased.

Dr. Preston brings to the office the advantages of training in neurology and of a considerable knowledge of the best institutions for the insane both in this country and Europe.

The thirteenth report of the Commission, which is reviewed in this number of the JOURNAL, contains a most admirable report from the secretary which shows that he has at once grasped the problem which confronts the Commission and the citizens of the State in the matter of the care of the indigent insane. He has fearlessly reported the condition of the unfortunates as he has found it, and we predict that much good will result from his straightforward course.

It has been a mistaken policy that has heretofore glossed over the deplorable lack of care and treatment which has attended county custody of the insane. The credit and good fame of the

State has not been increased thereby in any respect, for the truth is bound to prevail in time. On the contrary, the citizens have been lulled into a condition of blind satisfaction and indifference, from which it will be the more difficult to arouse them to a state of activity. We commend to the people of Maryland the following which is just as applicable as to the State of Iowa:

"Certainly those who are finding fault with the order of the board of control forbidding the counties to withdraw their insane from the State hospitals in order to take care of them in county hospitals, says the Cedar Rapids (Iowa) Republican, are not warranted in their criticism if the basis of that criticism be the plea of economy. In the first place we have no right to look at this matter from a mere dollars-and-cents standpoint. Certainly the people of Iowa are too intelligent and too humane to tolerate that for an instant, but if we had descended to that low plane from which we could view nothing but a dollar mark, there would yet be no good ground for the policy which simply has in view the restraining and confining of persons who have lost their reason. The records show that our hospitals for the insane have been doing a grand work along this line of restoration to reason. A great many men and women sent to our insane hospitals have come to their unfortunate condition from poor modes of living, insufficient food and diseases of one kind and another. Once put them amid the cheerful and sanitary conditions which prevail at our insane hospitals and bring them under the care of the skillful physicians employed there and the curative process is by no means difficult or slow."

In this connection the following extract from a private letter from a former superintendent of a hospital for the insane is of interest as showing how widespread are the faults of county care:

"I am now acting as inspector of humane institutions, which means all the hospitals, county lunatic asylums and almshouses receiving public money. I have already made a tour of inspection of the county asylums and have been much shocked at what I saw and would probably have been more so at what I did not see. You can understand then that I found the articles and the discussions on 'county care' in the last Transactions of the American Medico-Psychological Association most interesting. It is strange how the same faults exist to which attention is called

in the transactions. It only shows that the trouble is in the system no matter where it is attempted. I have also read the report of Dr. Preston upon the condition of your county asylums and almshouses receiving insane patients. It is pretty bad, far worse than I have seen here. I am going to do my best, first to improve the existing state of matters and failing, will agitate for abolition. I think that changes can be made which will certainly be improvements."

THE TERMINATION OF THE CASE OF GEORGE H. STEPHENS.—As foreshadowed in the interesting paper of Prof. McIntire, published in the last JOURNAL OF INSANITY, the trial of the incendiary of Pardee Hall at Lafayette College occurred in February last. In view of the fact that no evidence beyond the confession of the prisoner was obtainable to substantiate the charge of incendiarism under which he had been indicted, there existed until the close of the trial a degree of uncertainty as to the verdict of the jury. Some sort of a verdict of guilty was regarded a foregone conclusion, as the defense had volunteered to plead guilty to the charge of malicious mischief, but the offer had been declined by the prosecution. It seems unfortunate that the prisoner was not tried upon his merits or demerits, but one gets an impression from reading the newspaper accounts that the proceedings were not vigorously pushed by the prosecution or withstood by the defense. This was probably due to the fact that the case was weak and both prosecution and defense were hampered by difficulties. The verdict, in the light of the sentence, must be regarded a compromise. The defendant, according to his own confession, from motives of revenge had burned the most important and costly building connected with Lafayette College and had destroyed apparatus and scientific collections which could not be replaced, and yet the verdict of guilty brought with it a sentence of but nine years in the State prison—a period which will probably be materially shortened by the usual allowance for good behavior. It would seem as if there lingered in the mind of the judge who fixed the penalty a certain misgiving as to the full sanity and responsibility of the defendant, otherwise the term of sentence would seem inadequate to punish the crime which had been committed. It is to be regretted that the ques-

tion of his mental condition was not properly investigated prior to his trial or during the proceedings. The prisoner, in mitigation of sentence, presented a long, rambling paper which he was not permitted to read by the presiding judge because it related wholly to his charges against President Warfield. The persistent character of his impressions about Warfield and his manifest feeling that vague statements of them constituted an ample defense against all criminal charges, suggest that his feelings towards Warfield had an influence upon his conduct similar to actual delusions. There is reason to anticipate the frank development of insanity prior to the expiration of his term of sentence. Whether Stephens proves to be sane or insane, the ready appointment of such a person to a responsible teaching position in Lafayette College suggests the propriety of a prior investigation into the mental and moral condition of future teachers there, as a prerequisite to appointment.

Death of Dr. Rohé.—The sudden death of Dr. Geo. H. Rohé, the versatile and accomplished superintendent of the Springfield Hospital, at Sykesville closes a career of great usefulness. He had been and continued during his life a dermatologist, a student of hygiene, a gynecologist of acknowledged reputation, and, finally, a successful alienist. Called to the superintendency of the Spring Grove Hospital at Catonsville to succeed the lamented Richard Gundry from the position of Health Commissioner of Baltimore, he developed such special qualities as an administrator and a student of mental disease that he was chosen to build, equip and organize the new Springfield Hospital. How wisely and successfully he planned is shown by the groups of buildings already erected or in process of erection at Springfield. His death seems an irreparable loss to the infant institution which was developing new methods of caring for the chronic insane under his quick eye and rare administrative ability. We are gratified to learn that the main features of the new hospital have been fully outlined and that it will be completed in accordance with the original plans.

His death was a cruel shock to his friends, few of whom knew that his state of health gave rise to any anxiety. While in New Orleans in attendance upon a meeting of the Prison Congress he

was found dead in his bed. As a public-spirited physician, an able administrator, a steadfast friend and a man of scientific attainments, he will be sadly missed.

PROVISION FOR THE INSANE IN CHINA.—It is a matter of interest to learn from The China Medical Missionary Journal of December last that an institution for the care of the insane is soon to be opened at Canton under the charge of Dr. J. G. Kerr, an American medical missionary. The Chinese government has never made any provision for the care of its insane population. Homicidal and dangerous insane persons have always been treated as criminals, and the less dangerous have been allowed to roam at will through the country as irresponsible beggars. As they generally are regarded as possessed of a demon, great cruelty has undoubtedly been practiced towards them. In many instances, in fact, it is asserted that the power of life and death, held by the father, has been invoked among the lower classes to relieve the members of a family of the burden of support of an incurable patient. Even among the wealthy, custodial care with chains and close confinement has been employed, and there has been no institution where patients of any class could receive enlightened care or medical treatment. The existence of any great numbers of insane persons among the Chinese has been denied, and many who have been familiar with the country have believed that the modes of thought and habits of life of this non-progressive people have conferred an immunity from mental disease. It is asserted now, however, by Dr. Kerr that in China the number of the visible insane is so great that, to adequately shelter them, at least 300 institutions of a capacity of 1000 patients each would be required. The movement for the erection of an institution for the care of the insane began in 1872, but nothing came of it until 1887, when it was inaugurated by the Medical Missionary Society, but subsequently the enterprise was transferred to a separate organization; since then it has had the usual vicissitudes which characterize all similar pioneer work in philanthropy. In 1891 a site of three acres was procured at Canton; in 1894 a small building was erected and in 1898 a second building was begun When the latter is completed provision will exist for from 30-40 patients in 24 rooms. The buildings are substantially built in

two stories and are surrounded by a wall, the grounds being arranged with airing courts and otherwise improved. The initial buildings are modest and painfully inadequate, but the movement resembles so strongly similar movements in behalf of the insane a half-century since in this and other countries, as to give hope of future rapid development. The institution is known as "Dr. Kerr's Refuge for the Insane."

PROGRESSIVE CHOREIC DEMENTIA (HUNTINGTON'S CHOREA).—An incident of the meeting of the New York State Medical Society in Albany in January last was the presence of Dr. George Huntington, who first described the form of chorea which bears his name. Dr. Huntington presented no formal communication to the Society, but in private conversation talked most instructively about the disease which has made him famous. Contrary to the general impression and the statements of other writers he believes that the disease is exceedingly rare, and outside of the families which were the occasion of his original contribution he has not seen any case in twenty-five years. This opinion necessitates a discrimination between Huntington's chorea and other forms of adult chorea. The salient points of the disease—hereditary transmission, adult life, and progressive mental failure with a very decided suicidal tendency—are essential to the diagnosis. Dr. Huntington has made a further observation, which has never yet been recorded, except by himself, that when the disease does not appear in any given generation, it disappears entirely from the family. Such descendants are *markedly nervous*, especially when under excitement, or during sickness, but they are not specifically choreic. This may be regarded as pathognomonic. In the absence of the family record, the differential diagnosis may be extremely difficult, or impossible, but an acute observer, who has had experience in the various manifestations of chorea, might be able to distinguish Huntington's progressive form. The mental manifestations of cases of Huntington's chorea are varied, but often distinctive as indicated above. A marked peculiarity is the reticence of the patients regarding their disease, and the strong disinclination to converse about it, or even to approach or consult a physician. This idiosyncrasy is so marked that an opportunity to observe a

case in which the disease prevails, for the purpose of studying the varied manifestations of the disease, is very difficult to obtain.

The disease has also been known as "Progressive Choreic Dementia," but will probably always be best known as Huntington's chorea. The peculiar mental characteristics suggest the thought that further opportunities for observation and study may be found in institutions for the insane.

FIFTY-FIFTH ANNUAL MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—This meeting will be held in New York, May 23, 24, 25 and 26, 1899. As heretofore announced by circular to members, the headquarters of the Association will be the Waldorf-Astoria. Members who have failed to receive the circular giving rates for rooms may be provided with such by application to the secretary.

The annual address will be delivered by Dr. Frederick Peterson of New York on the evening of May 24, at the Hall of the Academy of Medicine, No. 17 W. 43d street.

One session of the Association will be held at the Pathological Institute, No. 1 Madison avenue.

The following papers are promised: "Paretic Dementia; its Etiology," Dr. Sanger Brown, Chicago; "Differential Diagnosis of Paretic and Pseudo-paretic States," Dr. A. W. Hurd, Buffalo; "Lesions of the Intra-cortical Vessels in Brain Syphilis and Paresis," Dr. Henry J. Berkley, Baltimore; "Vocation in Paretic Dementia," Dr. Jos. G. Rogers, Logansport, Ind.; "The Puerperal Insanities," Dr. H. A. Tomlinson, St. Peter, Minn.; "The Rôle of Infection in the Causation of the Puerperal Insanities;" "Disorders of Sleep Among the Insane," Dr. Theodore H. Kellogg, New York; "The Treatment of Epileptics in Colony," Dr. J. Frank Edgerly, Oakbourne, Pa.; "Some Inconsistencies, Legal and Medical, about Insanity," Dr. J. T. Searcy, Tuscaloosa, Ala.; "Metaphysics," Dr. H. C. Eyman, Cleveland; "The Boarding-Out Treatment of the Insane in America," Dr. G. Alder Blumer, Utica, N. Y.; "The Imagination in Relation to Mental Disease," Dr. R. H. Chase, Frankford, Pa.; "The Practical Value of Prophylaxis in Mental Disease," Dr. A. B. Richardson, Massillon, Ohio; "Ephemeral Mania," Dr. T. J. W. Burgess, Montreal; "Relations of Renal Disease to Mental Derangement," Dr. W. L. Worcester, Danvers, Mass.; "A Third Chapter in the

History of Canadian Jurisprudence of Insanity," Dr. Daniel Clark, Toronto; "Reflex Irritation with Special Reference to Eye Strain—A Factor in Nervous and Mental Disease," Dr. Chas. A. Drew, State Farm, Mass.; "A Review of the Literature Published for the Instruction of Nurses in Institutions for the Insane," Dr. W. D. Granger, Bronxville, N. Y.; "The Desirability of Close Connection between Psychological Laboratories and Hospitals for the Acute Insane," Samuel B. Lyon, M. D., New York; "A Review of Dr. Brigham's Book," D. R. Burrell, M. D., Canandaigua, N. Y.; "The Public Care of the Epileptic in Massachusetts," Owen Copp, M. D., Palmer, Mass.; "The Palates of Idiots," Walter Channing, M. D., Brookline, Mass.; "Our Work and its Limitations," E. C. Runge, M. D., St. Louis, Mo.; "The Psychology of Criminals: and a Plea for the Elevation of the Medical Service of Prisons," J. B. Chapin, M. D., Philadelphia, Pa.; "The Importance of Co-operation and Organization among Private Hospitals for the Insane," J. J. Kindred, M. D., Astoria, N. Y.; "Christopathy: A Glance at the Neuropathic Side of Christian Science," C. H. Hughes, M. D., St. Louis, Mo.; "The Rôle of Wound Infection as a Factor in the Causation of Insanity," A. T. Hobbs, M. D., London, Ont.; "Thyroid Extract: Its place in the Therapeutics of Insanity," Wm. Mabon, M. D., and W. L. Babcock, M. D., Ogdensburg, N. Y.; "The Pathology of Epilepsy with an Introduction to a New Treatment," C. G. Hill, M. D., Baltimore, Md.; "Contagion and Infection in Insanity and Measures of Prevention," Richard Dewey, Wauwatosa, Wis.

Papers will also be read by Boris Sidis, M. A., Ph. D., New York; Carlos F. McDonald, M. D., New York; A. Hrdlicka, M. D., New York; B. Sachs, M. D., New York; F. C. Hoyt, M. D., Mt. Pleasant, Iowa; J. Percy Wade, M. D., Catonsville, Md.; Georges Villeneuve, M. D., Longue-Pointe, Que.; M. J. White, M. D., Wauwatosa, Wis., and Edward Cowles, M. D., Waverley, Mass. The titles of these have not yet been furnished.

Among the social features will be a boat-ride on North River and about the Bay, tendered by the managers of Manhattan State Hospital, and a visit to Bloomingdale, on invitation of the managers.

A full attendance at this meeting, which promises to be so enjoyable and full of interest, is urgently desired.

Obituary

ALBERT REYNOLDS, M. D.

The subject of this notice was born at Grand Island, Vermont, in 1837 and died in Clinton, Iowa, February 23, 1899. His education in letters and in medicine was acquired in his native State. He served two years as a volunteer in the Civil War. While Dr. Edwin R. Chapin was superintendent, and Dr. Carlos F. MacDonald an assistant physician, he was a member of the staff of the Kings County Lunatic Asylum at Flatbush, New York.

He located in Clinton, Iowa, in 1867, and there married Sarah Rogers, a native of Bath, New York.

In 1873 he was appointed superintendent, and opened the Hospital for the Insane at Independence, Iowa.

When, after a faithful and successful service, he retired from office in 1881, and resumed private practice in Clinton, the trustees of the hospital said concerning him: "We deeply regret the necessity that has compelled him, on account of failing health, to retire from service in this institution; that in him we always found an able and efficient worker in the cause of humanity; that he possesses in an eminent degree that ability and tact which enabled him to conduct the affairs of the institution with great success, and it suffers an irreparable loss in his leaving."

He continued in the active practice of his profession until a few weeks before death. He acquired a competency and had a most delightful home in which his widow remains.

One son is a lawyer in Rock Island, Illinois, and the other will succeed his father in the practice of medicine.

Dr. Albert Reynolds lectured on insanity in the Medical Department of the State University of Iowa for several years. He was held in unusual esteem by his patients and in the homes visited by him. He was regarded as remarkably skillful, not

only by his patrons and his fellow-physicians in Clinton, but by the medical profession generally, and was a member of numerous medical societies. His reputation as an alienist was wide, and as such he was largely consulted in Iowa and Illinois. His memory will be cherished throughout life by all who had the pleasure of his acquaintance.

SAMUEL ELIOT, LL. D.

On the 14th of September, 1898, died Samuel Eliot, LL. D., scholar, educator, philanthropist, the president of the Massachusetts School for the Feeble-minded for the last twenty-one years. Dr. Eliot was born in Boston, December 22, 1821. He was fitted for college at the Boston Latin School, and was graduated at Harvard College in the class of 1839. Belonging to a family of high social standing and influence in the community for generations, and possessing ample means for his own support, he immediately began to fit himself for a life of usefulness to others. He was several years in Europe, giving much of his time to study, more particularly to the study of history, the science of education, and a subject then much occupying the attention of leading men in crowded foreign cities,—the amelioration of the condition of those in the lower walks of life.

On his return from Europe, in 1843, he organized a school for working men. In 1847-48 he was associated with Samuel G. Howe, John A. Andrew, Samuel May, Stephen Fairbanks and other leading philanthropists of the Commonwealth in organizing, at the expense of the Commonwealth, an experimental school, to be continued three years, for the instruction and training of idiotic and feeble-minded youth. The experiment was so successful that in 1850 the same gentlemen procured an act of incorporation, under the name of the Massachusetts School for Idiotic and Feeble-minded Youth, and in 1851 the school was reorganized on substantially its present basis as a continuation of the experimental school, with the same superintendent, the same instructors, the same pupils, the governing board consisting of eight trustees appointed on the part of the corporation and four trustees appointed on the part of the Commonwealth. Thus, owing to the labors of Dr. Eliot and those

associated with him, all of whom he outlived, Massachusetts holds the high distinction of being the pioneer in this country in making systematic provision for the amelioration of the condition of idiots and the feeble-minded.

Dr. Eliot was one of the original trustees of the school, and he continued to hold that office until his death, with the exception of a few years while he was connected with Trinity College at Hartford. He was also a trustee of the Perkins Institution and Massachusetts School for the Blind for thirty-five years, and for twenty years its president. It is not unlikely that he was turned to philanthropic work while he was yet an undergraduate at Harvard, during a visit made to New Hampshire at the invitation of Mr. Longfellow in a party that included Dr. Howe and Rufus Choate; for it was on this journey that Dr. Howe discovered Laura Bridgman. May not the young man then have decided upon the use to which he would put the five talents that had been given to him? Was not this the starting point of a long life of almost unexampled charity? However this may have been, again and again must Dr. Eliot's experience in his old age with the even more wonderful Helen Keller have recalled to his mind his boyhood excursion in the New Hampshire hills, with such famous company.

Dr. Eliot was for forty years a trustee of St. Paul's School, Concord, N. H., and during the forty years made at least two visits every year to the school. He was for a short time professor of history in Trinity College, Hartford, and from 1860 to 1864 was president of that institution. He was master of the Girls' High School of Boston from 1872 to 1876, superintendent of the public schools of Boston from 1878 to 1880, and later for some years a member of the school committee of Boston. He was an overseer of Harvard College for a term of six years. He was long connected with the City Mission of Boston. He was president of the Boston Episcopal Society, one of the oldest, if not the oldest charitable organizations of the city. He was long a trustee of the Boston Athenæum, of the Boston Museum of Fine Arts and of the Massachusetts General Hospital. He was chairman of the board of trustees of the latter institution for more than twenty years, an office of no little labor. As such he had much to do with the moving of the McLean Asylum from Som-

erville to Waverley, including the raising of funds for such transfer.

For many years Dr. Eliot made it a rule, which was well observed, to give of every day, in philanthropic work or work closely allied to philanthropic work, as many hours as constitute the present workingman's legal day; and in later years he endeavored to give to such work half that time.

Our Massachusetts School for the Feeble-minded has had no world-renowned Laura Bridgman; here there have been no inmates whose struggles to overcome seeming unconquerable defects of nature, with the assistance of systematic teaching, have raised them in actual knowledge as well as reputation above most individuals possessed of nature's normal gifts. With our wards the intellect that soars above absence of sight, of speech, of hearing, is wanting; there is little to excite enthusiasm; little to excite wonder. All the inmates are below the average level of human intelligence, many deep below that level. They are of different conditions of bodily health. A few are of great strength, and require all the more care because of feeble intellect. Many are of feeble body, puny and disagreeable to behold. It is an unattractive charity. Yet to it Dr. Eliot has given much of the labor of his life. He has seen the school grow from about 20 inmates in the experimental school to its present number of 600. During the first few years of the school under the act of incorporation there were about 50 pupils. When the school was moved from South Boston to Waverley there were only 200. A large part of this growth has been due to the labors of Dr. Eliot. For many years he was constantly before the Legislature and its committees, with written report and oral address eloquently pleading the cause of the feeble-minded. Rarely did he fail to obtain the grant for which he petitioned. He had much knowledge of the details of the school life. While he was yet associated with Dr. Howe, and in the earlier days of his presidency, he originated much in regard to instruction and training; he knew each child by name, its history, its peculiar defects and infirmities. In latter days, when the instruction and training of the feeble-minded has become a science to be acquired and followed as a profession, as he and his associate pioneers in the work foresaw it must, he has fully appreciated and commended the professional work of the

men and women here engaged in it, largely selected by himself; while on the other hand, his commendation has been received as that of a man who knew whereof he spoke. The feeble-minded persons of the Commonwealth have lost their best friend.

[Extract from Annual Report of the Massachusetts School for the Feeble-minded.]

GEORGE H. ROHÉ, M. D.

Dr. Rohé was born near Baltimore, of German parents. After a school education he entered the medical department of the University of Maryland, and graduated in 1873.

Shortly after his graduation he entered the U. S. Signal Service, and was stationed at Atlanta, New Orleans, and Boston. While in this latter city he became interested in dermatology, and upon his retirement from the Signal Service he established himself in Baltimore as a specialist in this department. Soon after locating in Baltimore he was appointed a lecturer on dermatology in the College of Physicians and Surgeons, and a few years later assumed charge of the department of hygiene in the same institution. For two years Dr. Rohé filled, in a most acceptable manner, the chair of obstetrics in this college.

In 1891 he was appointed Health Commissioner for the city of Baltimore, and performed the duties of this office with rare zeal and ability. During his term of office the position of superintendent of the Maryland Hospital for the Insane became vacant through the death of Dr. Richard Gundry, and Dr. Rohé was selected to succeed this distinguished alienist. He entered with characteristic vigor upon this new field of work. Utilizing his sanitary knowledge he put into operation a system of sewage disposal which has been a perfect success. His first years at this asylum were devoted largely to the improvement of all details of management, and his executive ability was soon made manifest.

While at this institution Dr. Rohé became much interested in the relation between mental disease and disease of the pelvic organs in the female. Turning to account his experience in abdominal surgery, first acquired under the late Dr. Erich, he performed many operations upon insane females, confining himself very properly to the removal of diseased organs. His success

in this work was noteworthy, and attracted much attention, since it stimulated inquiry into the relations which exist between pathological somatic and psychic states.

After some six years' service at this hospital, Dr. Rohé was selected to organize a new hospital at Springfield in this state. He entered heart and soul into this work, visiting numbers of institutions, and bending all his energies to make this new institution better than any that had preceded it. Together with the architect, he constructed the plans for the Springfield Hospital for the Insane, which has already taken a high rank among modern institutions.

Dr. Rohé determined to carry out the "open door" system in the most thorough and consistent manner, and up to the time of his death this was done with literal fidelity. Space does not permit any comment upon the success which has attended this method of dealing with the insane. It is earnestly hoped that the broad plans which Dr. Rohé so wisely formulated for the future of this asylum may be carried out.

As a writer upon medical subjects, Dr. Rohé possessed a clear, forcible and graceful style. He was connected, either as editor or collaborator with several well-known medical journals, and contributed largely to current medical literature.

In addition to this he was the author of a text-book on Hygiene which was used in many colleges. Besides this work, he published in collaboration with the late Dr. Liebig, a treatise on Medical Electricity, and with Dr. Lord a compendium of Dermatology.

Dr. Rohé always took a deep interest in the work of the various medical societies of which he was a member. He was a prominent member and officer of the American Public Health Association, the American Medical Association, the Southern Gynecological and Surgical Society, the Dermatological Society, the Medico-Psychological Association, the American Academy of Medicine, the Medical and Chirurgical Faculty of Maryland, and many others. He was also corresponding member of a number of foreign societies.

Dr. Rohé's circle of acquaintances in the profession was perhaps wider than that of any man in his State. Versatile, witty and courteous, he attained a popularity that falls to the lot of few.

As a medical teacher, Dr. Rohé was eminently successful, and he will be affectionately remembered by hosts of former students. Dr. Rohé was what the Scotch call a "masterful man," and when he felt that he was right, he advocated his views with a strength and energy that rarely failed in attaining the end in view. This was especially noticeable in his success in carrying out his liberal views in the establishment of the Springfield Hospital in the face of considerable opposition.

To those who knew his unselfish devotion and inestimable services to the profession which he so greatly adorned, his untimely death will always be a source of deep regret.

G. J. P.

Clinical Notes

ATAXIC PARAPLEGIA. By William E. Fisher, M. D., Assistant Physician Conn. Hospital for Insane, Middletown, Conn.

Nellie K., admitted to the Connecticut Hospital for the Insane with the following history obtained from her mother and a sister of more than average intelligence. Single, aged 25 years, and of Irish parentage. Personal history good, although of a slightly nervous temperament. Has been employed as a domestic, and has worked in a corset factory. Began menstruating at the age of fourteen, since when she has suffered occasionally from dysmenorrhœa. Is of average weight, size and build, and is apparently well nourished. Habits have been temperate, but her father occasionally drinks to excess. About seven years ago, while returning from work at the factory, she was accidentally thrown down in play by one of her companions, and sustained a slight concussion of the spine, which disabled her for a day or two, but which at the time, was not attended by any serious symptoms. She accordingly resumed work in a couple of days, but a short time afterwards began to notice a numbness in her legs, and an uncertainty in walking, which was especially manifested in the dark. There was numbness to less extent in the arms, and a perceptible weakness in her grasp. She also complained of queer sensations in the right hypogastric region, some little sacral pain, and a slight difficulty in voiding her urine, but no pains, nor abnormal sensations elsewhere. Her insanity was said to have a duration of about six years; gradual in onset, and until three years ago was characterized by progressive mental impairment. Since then, however, she has been subject to increasing periods of despondency, with exacerbations of symptoms at the menstrual epoch. During her despondent periods, which are of varying duration, she is timid, apprehensive, fault-finding, and full of forebodings of evil. She accuses her friends

of wanting to get rid of her, and thinks that the priest wants to condemn her to everlasting punishment. She has threatened suicide, but has never shown any disposition to injure herself or others.

Present condition. She presents slight asymmetry of the cranial vault, and a very high arched palate, which has a tendency to give her voice a peculiar nasal twang. On examination she shows marked ataxic unsteadiness, which she says she first noticed in the legs, afterwards extending to the arms. She is only able to take a few steps without assistance; is very unsteady when she stands with her feet close together, swaying from side to side, and if not supported, falling to the floor when her eyes are closed. Under ordinary circumstances she presents decided general muscular tremor, greatly intensified by her emotions, and by volitional movements. Inco-ordination is revealed by her unsteady gait, and her inability to execute direct movements of the arms. When asked to place the tip of her index finger upon the tip of her nose, she seldom comes within two or three inches of the mark, and if supported and blindfolded, and directed to execute the same movement, she is more likely to touch her ear than her nose. Abrupt turning is followed by reeling from side to side, and ataxy is equally evident when she lies down, and attempts to touch some object with her foot. If the feet are bare, the irregular action of the muscles is shown by the movements of the tendons on the dorsum of the foot. In walking the feet are lifted higher than normal, and brought suddenly to the ground, her heels striking first. Sensory symptoms are entirely wanting. There are no lightning pains, nor girdle symptom. She complains, however, of sacral pain, and of dull pains in the legs, which are especially severe when fatigued; and of spasmodic contractions of the muscles of the legs, which occasionally occur directly after rising in the morning, when her feet first touch the floor. No loss of sensation in the legs, arms or trunk, and the sense of temperature, as tested by corked test tubes containing hot water, appeared to be perfectly normal.

The knee jerk is quick, strong and extensive, and there is a distinct rectus and ankle clonus in both limbs. Muscles in both arms and legs are rounded and well nourished, and sphincters are unimpaired. Slight loss of light reflex; accommodation a

trifle tardy. Slight impairment in articulation, and there are irregular tremulous movements of the face, in which the tongue sometimes participates.

Her mind is somewhat enfeebled, and there is a tendency to despondency, and a disposition to worry about her physical condition. Her memory is considerably impaired. Her attendants report that she is a confirmed masturbator. This cannot be considered a case of locomotor ataxia, as it lacks the essential symptoms of that disease, namely loss of myotatic irritability, absence of Argyll-Robertson pupil, lightning pains, girdle symptom, etc. Neither can it be considered a case of Friedrich's hereditary ataxy. The fundamental factor in this disease is heredity, and the ancestral neuroses may take the form of insanity, great nervous irritability, inebriety and the like. Such patients inherit a tendency to degenerative processes from ancestors. The disease is developed at about the age of puberty; more females are affected than males, in the proportion of three to two, and the patients are the children of the laboring and agricultural classes. In Friedrich's disease, the patient first notices an uncertainty in the gait, and some feebleness in the lower limbs. These symptoms increase until, as in this case, progression is seriously interfered with, but examination will show that within three years from the onset of the disease the knee jerk has entirely disappeared. After five or six years the arms become involved, and a little later bulbar symptoms, such as scanning speech, etc., appear, with accompanying complete loss of power in the lower limbs. The disease to which ataxic paraplegia bears the strongest resemblance, and to which it is closely allied, both in its pathology and symptomatology, is spastic paraplegia, from which it can only be differentiated by a careful study of the symptoms. In spastic paraplegia, there is, as in the case of the patient under consideration, an inherited neurotic tendency, with concussion of the spine, due to injury as a frequent exciting cause. The weakness of the legs is also of gradual development, the patient often being able to walk a mile or two after the disease has lasted for several years. The knee jerk is excessive, with rectus and ankle clonus, but the tendency to spasm, and not to inco-ordination is the first symptom which attracts the patient's attention. The gait of spastic

paraplegia is different from that of ataxic paraplegia. In the former disease the legs drag behind the patient, and in walking each leg is dragged forward as a rigid whole, the toes first touching the ground. When the ball of the foot strikes the ground, the limbs shake from the clonus developed by the extension of the calf muscles. Similar trepidations frequently occur when the heel is allowed to touch the ground. The legs in both diseases are generally well nourished, but sometimes a wasting occurs. The arms in spastic paraplegia are generally unaffected, but they sometimes present the same weakness, and myotatic irritability. The arms are generally affected alike, but it is common for one to be normal, and the other as much affected as the legs. Sensory symptoms are generally wanting, although you may have, as in ataxic paraplegia, the same subjective symptoms of tingling, numbness and formication. Ocular symptoms are rare, the pupil reflexes being generally normal. The diagnosis of spastic paraplegia rests on the combination of muscular weakness, excess of myotatic irritability, and muscular spasm, but Dr. Gowers states that when the spastic element is replaced by inco-ordination, the disease should be considered one of ataxic, rather than spastic, paraplegia, and I have accordingly so denominated this case.

Medico-Legal Notes

By H. E. ALLISON, M. D.,

Medical Superintendent, Matteawan State Hospital, Fishkill Landing, N. Y.

"Ask what a State does with its insane prisoners, ask how it protects society on the one hand and fulfills its duty to an irresponsible member on the other, and we may judge of its degree of advancement in civilization by the response."

THE CRIMINAL INSANE IN THE UNITED STATES AND IN FOREIGN COUNTRIES.—The report of the Hon. Samuel J. Barrows, a member of the International Prison Commission from the United States, transmitted to Congress in May, 1898, through the Department of State, has recently been published. It reviews the methods of legal procedure followed in each State of the Union and in foreign countries in dealing with questions relating to insanity and crime. A general investigation into the subject was made as early as 1878 by the Société Générale des Prisons of Paris, and, in 1895, the International Prison Congress recommended that separate and special provisions should be made for the insane criminal. In response to a request, in 1897, for a more general inquiry, the Commissioner for the United States prepared the report we have mentioned, which constitutes a valuable medico-legal document.

The alienist and criminologist, the student of penology and the legislator, as well as every person interested in the welfare of the individual and in the protection of society will find in this report a compendium of laws and usages which have all been derived from official sources and are of great value as a reference. The inadequacy of the provisions made in the ordinary prison hospital for the care and treatment of the insane convict is indicated, and the impropriety as well as the injustice of committing such insane convicts to the custody of the ordinary hospital for the insane is also clearly shown. The general sentiment

which is strongly rising, not only in this country but abroad, is decidedly in favor of separate hospitals for the criminal insane. "The important classification to be made among the insane so far as society is concerned, is a division into dangerous and non-dangerous insane." The various procedures followed in permitting the release of such of the criminal insane as have presumably recovered are detailed at length. It is self-evident that this is a matter in which the utmost care should be exercised. "The importance of a combination of judicial, administrative, and medical authority in authorizing the discharge of a prisoner as laid down by the Paris Congress cannot be doubted." In Georgia in the case of a capital crime committed by a lunatic, the patient cannot be released from the hospital except by a special act of the legislature. "In the French discussions, great importance is justly placed on the necessity of carefully guarding society from the dangers incident to a too easy discharge of the criminal insane. It was suggested that the principle of conditional liberation might well be applied to insane criminals. It is practiced at Broadmoor, England, with excellent results. A person who, after being carefully observed for a sufficient length of time, seems to be cured, is committed to relatives who undertake to guard him, but the State reserves the right to effective control. The patient is subjected to frequent visits and in case of the violation of the rules imposed, whether on the part of the patient or his guardian, is recommitted to Broadmoor. The method seems to offer all the necessary guarantees for the protection of society."

The conditional discharge, which is in fact a modification of the parole system, should not apply to the criminal insane excepting those thought to be cured and such cases as might warrant special action. Even with this safeguard, the highest conservatism should be exercised in certifying to the recovery of lunatics accused or convicted of capital crimes.

There is one commendable feature attending the recognition of the prevalence of insanity among the inmates of prisons and the subsequent commitment of such insane convicts to a special hospital which this report does not fully call to notice, viz.: the protection afforded by the detention in such a hospital, beyond his term, of any such prisoner as may be found remaining insane at the time of the expiration of his sentence. Having been ad-

judged insane while undergoing sentence and thereupon committed, such person should be held in custody until recovered or pronounced reasonably safe to be at large.

The establishment of separate hospitals for the criminal and convict insane would stimulate observation, and lead to a more careful scrutiny of the actual mental condition of the inmates of our jails, penitentiaries, and prisons. A portion of the burden of the philanthropist—"the white man's burden"—is the successful solution of problems relating to crime and disease.

PUNISHMENT OF THE INSANE.—Closely connected with the question of punishment is that of responsibility. Discussion of this topic still continues in England and recently has become active, the point at issue being the advisability of punishing the mentally diseased. Punishment implies criminality and these two terms should be divorced from insanity. The old idea of retributive justice appears to have taken firm root in the minds of men, and is hard to eradicate. The whole theory of punishment has undergone and is still undergoing radical changes. Even the sane are not subjected to a tithe of the penalties once imposed. Soldiers in the army, sailors in the navy, children in the public schools, as well as criminals, have been relieved of a vast amount of corporal punishment and the interests of humanity have been best served thereby. The problem is to devise the best means to maintain law and order and protect the interests of society. It is true that the insane are both troublesome and dangerous. They have no right to disturb or threaten the peace of others. In hospitals we often remove such unruly elements from quiet wards to noisy and violent ones to insure freedom from annoyance for their associates. If the change results in the greater self-control of the individual, we are gratified. So also if an insane person is threatening injury to himself we should take steps to prevent it. Taking away privileges and liberties, however, is not punishment. By analogy, if a sane man fractures his leg, the limb is placed in splints and he is deprived of the pleasure of walking about. If he should become afflicted with a contagious disease, he is quarantined, not as a punishment, but to secure the health and comfort of others. The surgeon determines upon what conditions and when the injured

man may walk, and the physician decides when it is safe for the patient to leave the hospital. The dangerous and criminal insane should be judged by a similar standard, namely, the question of their safety to be at large. It is the only criterion that can properly be established. An insane man may have to reap the consequences of his acts, but he should not be punished for them. Insanity, instead of excusing, often lays upon its victims a greater burden and carries with it a longer term of confinement than that imposed by law upon the sane. If the insane were to be held responsible for criminal acts, the majority of them would be imprisoned for brief and definite terms. Those, therefore, charged with dangerous assaults, would soon be at liberty again to attempt to injure or to kill. We have a case in mind where an insane man committed a homicide and served a short term. After his release he killed a second victim and was again imprisoned, and upon his liberation again repeated the act; and still again for the fourth time. During his last imprisonment, he was found to be insane, and was committed as a lunatic. He has now been detained fifteen years over his time in an asylum to which he should originally have been committed. To hold a woman responsible because she for a time could resist an insane impulse to kill her child but finally yielded, would be similar to reproaching one for succumbing to disease who, for example, should fight the inroads of pneumonia and walk about until no longer able to keep from bed. Society is better protected by the doctrine of irresponsibility. Let the dangerous and criminal insane be sent to a hospital, and the grounds be stated upon which they are declared to be irresponsible and let them there be held in secure custody so long as such grounds exist. The purpose of the law relating to the criminal insane should not be to punish but to segregate them and thereby protect society. They should be weeded out from the community. Often they are depraved and degenerate. Actual experience has shown that the average length of confinement of persons charged with crime is greater in asylums than in penal institutions. The insane criminal should be placed in an asylum early in his career, not after having run the gauntlet of several imprisonments and the commission of numerous crimes. We believe where mental disease exists associated with crime, that a careful scrutiny should be made and

such persons detained for prolonged observation, treatment and care; a reasoning which seems eminently sound and is supported by analogy in every other form of disease which finally becomes prostrating to both mind and body.

DAMAGE FROM ALLEGED NEGLIGENCE ARISING FROM INSANITY.—The Phoenix Insurance Company after paying for the loss of a vessel, sued the captain to recover the amount paid to the owners. The suit was brought upon the ground that the master was negligent and careless during a heavy storm in which the ship was wrecked upon Cape Cod. The defense, in answer, stated that by reason of exposure and exhaustion from three days and nights of duty, the last forty-eight hours of which were passed on deck, the captain was suffering from illness; that he had dosed himself heavily with quinine and was temporarily insane; that he was rendered thereby unconscious of his acts and irresponsible. Upon the trial, these facts were admitted but, in the opinion of the court, his exhaustion and alleged insanity constituted no defense. The decision of the trial court was affirmed by the General Sessions. This opinion, however, was reversed by the Court of Appeals, which stated that to hold the captain negligent for the loss of his ship was carrying the law of negligence to an unreasonable degree. If his incapacity to care for or navigate his ship at sea arose solely from mental or physical exhaustion resulting from exposure in his efforts to save the ship during the storm, it could not be called willful or negligent. The court said:

"The man is not yet born in whom there is not a limit to his mental and physical endurance, and when that limit has been passed he must yield to laws over which man has no control. It was said that the defendant was bound to exercise such reasonable care and prudence as a careful and prudent man would ordinarily give to his own vessel. What careful and prudent man could do more than to care for his vessel until overcome by physical and mental exhaustion? To do more was impossible. And yet we are told that he must, or be responsible." By this final judgment the captain was held blameless.

A subsidiary question arose in this case as to whether the mate was not responsible for not taking charge of the navigation

of the vessel in view of the captain's mental and physical incapacity. And as a corollary, the interesting inquiry suggests itself what degree of responsibility in the event of damage to either persons or estates, devolves upon persons in charge of dangerous or incompetent lunatics, who permit them to go at large or to remain in control of property which they are manifestly unfit to manage?

This decision by implication contradicts the position of Sir James F. Stephen in relation to insane impulses. In his work upon the History of the Criminal Law of England he holds that such impulses, if successfully overcome for a time, establish the fact that they are resistible and that it therefore becomes a legal duty to refrain from yielding to such insane promptings. The court holds, on the contrary, in the shipmaster's case, that there is a limit to human endurance. The progress of mental disease will weaken the powers of resistance as surely as will continued exposure during the progress of a storm at sea.

Power of Attorney Revoked by Insanity.—A judgment was obtained against the executor of the estate of a lunatic to foreclose a mortgage given, under a power of attorney, by the counsel of the testatrix who, at the time, was insane. It was proved that the power of attorney had been executed some years before while she was sane. At the time of the execution of the mortgage, however, she had lost her mind, and this fact was known to all parties concerned. The power of attorney was held by the lower court to confer authority for the execution of the mortgage, and the question of the insanity of the testatrix as vitiating its legality was not allowed to be proven. The point to be decided, on appeal, was whether the power of attorney was not revoked by the person becoming a lunatic, and whether the person contracting with such an agent, knowing the principal to be insane, could acquire any rights against the lunatic or her estate. The appellate court decided as follows:

"A lunatic cannot contract, and one only acquires rights against him or his estate where he has, for the benefit of the lunatic, advanced money or done services, and then he is permitted to recover, not the amount which the lunatic has agreed to pay, but only the actual amount of money advanced or the

reasonable value of the property or services furnished. A security made by the lunatic, or the infant, for his repayment cannot be enforced. These rules are well settled where a contract made by a lunatic or an infant lies at the foundation of a cause of action. Does one who deals with the lunatic, through an agent, acquire any better right than if he dealt with the lunatic in person? The learned justice who decided this case at the special term was of the opinion that he did. The argument was that the power of attorney given by Mrs. Merritt when she was sane was not revoked by her lunacy, and therefore the person to whom it was given had the same authority to act in her name after as before her lunacy. The reasoning of these cases is, it seems to us, unanswerable, and the principle established by them should be adopted as the law applicable to this class of cases, and it must be held that when one undertakes to deal with an agent having a written power of attorney, he equally with the agent knowing of the insanity of the principal, the transaction thus made has no more weight than if the transaction had been directly with the insane principal herself."

THE ENGLISH INEBRIATES ACT.—In its Annual Report for 1898, the Howard Association of England, with much gratification calls attention to the recent advancement made by statute in the treatment of inebriates, particularly of habitual offenders. This Society has long advocated the element of time as an essential feature in the cure of alcoholism. The law which formerly treated drunkards as merely misdemeanants has not been effective. Simple imprisonment for short terms does not result in restoring the individual to either mental or physical health or vigor. Those with experience know that in many cases the mind is often permanently shattered; and even in favorable cases without authority to hold in custody for a length of time sufficient to eliminate the effects of alcoholism, there is very little hope of permanent relief. The new law provides a maximum period up to which limit, if necessary, the institution is empowered to hold the delinquent; but should his condition at any time within the period be such as to warrant his release, he may be discharged. Detention, to be curative, must be prolonged. By this act the offense is not considered as one to be corrected by a fixed term, but an opportunity is hereby offered of saving the individual. To be effective,

more drastic measures are needed than are necessary for the simple punishment of intoxication. The new law is more than an amplification of the Inebriates Act of 1888, to which reference was made in the October number of this JOURNAL, inasmuch as it provides in certain cases for compulsory and peremptory detention in either private, county or State institutions for a period of time and without voluntary consent. It has been found that the period of one year is not sufficiently long to effect a cure and the necessity of a more effectual and stringent law became apparent. Various societies and associations as well as numerous prominent individuals have labored long for a reformation in the methods of treating inebriety in England. Among those who have actively worked for this measure have been medical men, penologists, Parliamentarians, and students of sociology, and it has received the endorsement and strong support of the British press. We quote from the report of the Howard Association, as follows:

"Henceforth, under the new Act, at any rate the worst class of this description will be treated in a more rational manner. For the Act provides that drunken misdemeanants convicted *four times within a year*, may, on indictment, be liable to detention in a certified, or State, Reformatory, for a period not exceeding three years. No one can reasonably plead that this Act errs on the ground of rigor. It is a merciful one for its pitiable objects, and also economic and wise in regard to the community. The principle which the Inebriates Act recognizes, needs, however, to have a still wider and more systematic application, in regard to *habitual* offenders of every description."

The opinion which has long been advocated by those who are closely identified with measures for the repression of crime and disease, is apparently becoming an accepted doctrine in relation to all cases of degeneracy and disease whether of mind or body; namely, that no person in confinement, who has once been a menace in the community, should be liberated unless safe to be at large. This principle is applicable to questions of quarantine, to regulations for the suppression of the social evil, to all matters which concern public health boards, to the criminal and dangerous insane as well as to those which relate to public safety in other directions and the maintenance of morality and order.

Correspondence

LETTER FROM DR. CLARK.

To the Editor of the American Journal of Insanity.

Dear Sir:—There is much interesting matter presented in Dr. Hrdlicka's article in the January number of the JOURNAL, upon art and literature in the mentally abnormal.

Notwithstanding that he states that his contributions in regard to epileptics are largely drawn from the insane epileptics in the New York State hospitals, one gains the impression that the epileptics do not materially differ, sane or insane. His remarks therefore carry undue weight, as though speaking for the epileptic class in general.

It may be interesting to state some of the observations made in a careful manner upon the epileptics admitted to the Craig Colony, numbering more than five hundred.

Dr. Hrdlicka states that epileptics are as a rule not fond of music. Our experience at the Colony leads us to a different conclusion. All patients regard the privilege of attending evening musicals one of their greatest enjoyments. Such entertainments form a regular feature of Colony life twice a week. The patients themselves take an active part in such amusements, and have become quite proficient in the use of various musical instruments. Two patients are members of the Craig Colony Band.

We have never seen epileptics who did not care for music if they were conscious and not suffering from active mental disturbance. We have found music and dancing particularly of value in removing many disagreeable features of the epileptic disposition. Any one doubting its efficacy would be no longer skeptical, after witnessing some of these entertainments.

Epileptics are very fond of singing, and we attribute the religious tone of their songs to the religious training encouraged by many for the so-called "unfortunates." Their songs frequently have a strong altruistic bearing, which has always been a marked element among colonized epileptics.

The moral and ethical principles which they hold are always interesting, and the incorporation of them in songs is by no means an ill-defined power for good.

While speaking of the fondness of epileptics for singing, we would say that they have almost without exception very poor voices. Probably this defect is in no small part due to the disease itself.

In regard to theatrical art: Several plays and farce entertainments are being produced this winter, solely by patients. Who knows but some of them may rival the distinguished memory of their fellow-sufferer Molière?

We do not find "severe and prolonged mental strain" is felt by the epileptic, if he is given plenty of time to work out and practice his stage part. Many clinical observers have noticed that while the epileptic is mentally and physically active, the invocation of the higher faculties of his mind, such as the attention or will calls into play the inhibitory control of a higher brain center over that of a lower, and thus prevents epileptic fits.

In answer to the statement that epileptics have but little aptitude for productive or decorative art, we would invite close attention to our system of schools at the Colony in Sloyd and Manual Training, where most proficient work is being done by many epileptic boys and girls.

Fortunately the so-called "eye-strain theory of epilepsy" has by no means worked such insidious harm as other surgical procedures among the epileptics, nor as much as it has among physicians who attempt to cure epilepsy by "tampering with the eye muscles."

Dr. Hrdlicka's article has left out some of the most signal indices of epileptic literature, namely, the presence of the so-called explosive sentence, which so frequently mars the rhythm of their productions. Epileptic ideas written or spoken are frequently awkward to a marked degree.

Again epileptic literature, unless produced with great care, presents many hiatuses of memory in consecutive thought, noticed in sentences, syllables of words and letters in single words.

Some clinicians see in the epileptic an anomalous paralytic state, becoming more pronounced year by year.

Finally we cannot be too careful in designating abnormal characteristics peculiar to abnormal people.

Epileptics, as many other neurotics, we are liable to treat in a new light, as a peculiar people, and not consider their characteristics as normal ones, modified more or less by disease. Abnormal characteristics become less peculiar the more we know of normal ones.

L. Pierce Clark.

Craig Colony, Sonyea, N. Y., Feb. 17th, 1899.

Book Reviews

La Puberta Studiata nell 'Uomo e nella Donna. In rapporto all antropologia, alla psichiatria, alla pedagogia ed alla sociologia. Del Dottor Antonio Marro. Medica primario dal R. Manicomio di Torino. Docente di Psichiatria alla Regia Universita Torino. (Torino, Fratelli Bocca Editori 1898.)

The study of the great critical period in human life when childhood passes into early maturity is certainly a worthy subject for the very ablest investigator. It can hardly be said to have been adequately treated in the past and the volume before us is therefore the more timely and valuable.

The object of the work is, the author states, the study of the natural conditions of puberty, the phenomena special to that epoch, its perils, and the attention it requires in the interest both of the individual and of society. In fulfilling this self-imposed task the author has brought together an immense mass of material which he has handled in a most thorough and masterly fashion, with the result that his memoir is likely to be long the classic and chief authority on its special theme. It will be impossible to here follow him in all the details of his subject, a mere enumeration of the heads would more than fill all the space that should be given, and every one of them is treated with a judicious fullness that leaves seldom much to be asked, though pregnant with suggestions. One can only speculate, as a rule, on questions left uncertain by Dr. Marro; he handles his subject fairly up to the limits of our knowledge. There are points where one may disagree with him in some particulars, but one has to respect his opinions, and admire the research and knowledge on which they are based.

The first two chapters discuss the physiological conditions attending this important vital epoch, the physical developments, both local and general, the changes in the bodily functions and the nervous system, the special senses, the time of reaction, etc. These chapters are full of valuable data that space will hardly permit enlarging upon here. The facts are stated from the latest information, and the original observations are of special value. One of the most notable is perhaps that the author finds in girls at and after the beginning of puberty a very marked decrease in sensibility in certain directions, as already noted by Lombroso. While finding the prime cause of this in the slowing of organic oxidation at this period, he attributes it in part to the less fully equilibrated functions of attention in the female as compared with the male, a view which he supports by various familiar facts.

The third chapter notes the special changes in character in the two sexes, and in the fourth the duration of the period is discussed, its variations and extremes. From this point on for several chapters the subject of the psychic changes and abnormalities of the entire epoch is more prominent.

The psychoses of puberty form the subject of three chapters, nearly sixty pages altogether. Marro divides the mental disorders of this epoch into three classes: 1, those in which puberty is only an existing cause, and which may be of any type that might otherwise occur at this period of life; 2, those especially characteristic of puberty; and 3, those associated with definite sexual development at this epoch. In the second group we find, of course, pubescent insanity, the hebephrenia of Kahlbaum and Hecker; and our author includes here also impulsive paranoia of a certain type. In the third group, besides rudimental paranoia, moral insanity and other types verging toward imbecility, he also adds katatonia, though this latter may also occur in adults. This inclusion may not be accepted by all, but it appears on the whole a reasonable one. Katatonia, so far as it can be admitted as a genuine species, occurs in late adolescence or early maturity as a rule, and may well be regarded as a late manifestation of the psychic disturbances of this important critical stage of life. Original paranoia has not always been classed with the mental disorders of puberty, but its full development often begins at this period, and, in our opinion, its reference here is from one point of view, at least, fully justified. On the whole, the views of Marro in regard to the psychosis of puberty are such as can be generally accepted without any serious reservations.

An interesting chapter is given to the consideration of the physical effects of puberty and of genital anomalies at this period. Much of it is only suggestive and theoretical, but some of the facts are striking, that of the giant infant reported by Sacchi, for example, being one of these. In this case a morbid growth in the testicle was accompanied with all the symptoms of premature maturity in a boy aged nine years, and the removal of the tumor brought him rapidly back to a more normal condition. The details of the case cannot well be given here, but it is in its way a very notable one of the kind.

Most of the latter half of the work is given to the discussion of the effects and causes of degenerative conditions in their relations to this developmental epoch, their remedies and prophylaxis. The moral, intellectual and physical hygiene of the growing youth are extensively and judiciously treated. The questions of heredity, the effects of the age of parents on their offspring, of alcoholism of parents, the habits as to labor, recreations, of self-indulgence, etc., of the youth, of early and late marriages, the education of the emotions, of women's work, and social mission, and many others bearing on this subject of developing maturity in the young are all discussed; and it would be hard to find many points, if any, in regard to which the author's views and positions could be seriously contested or criticised. There is nothing to tempt the

prurient about the works; it is a plain, sensible, scientific discussion of its subject. It is, moreover, not by any means a mere compilation, for, with a wealth of references, it is full of original studies and observations.

In conclusion, one may say that the book deserves a fuller notice, but, as already stated, it is one of a kind the merits of which are difficult to abstract or state adequately in any condensed form. It will be found a valuable volume for reference and study, and will not soon be superseded as an authority by any other on its special theme.

H. M. B.

State Commission in Lunacy, Ninth Annual Report, October 1, 1896, to September 30, 1897. Wynkoop, Hallenbeck, Crawford Company, State Printers, New York and Albany, 1898.

This bulky report comprises over 1600 pages; is in some respects one of the most interesting which the New York State Commission in Lunacy has published. While, however, we agree with the Commission that the great body of taxpayers "are interested in knowing how the lunacy laws of the State are being administered from year to year, and how far the object for which such great sums of public money are expended is secured in the operation of the present system," we doubt very much whether the very laudable attempt to inform the taxpayers might not have been better accomplished in smaller space and in more condensed manner.

The general receipts from all sources for the support of the State hospitals for the fiscal year ending September 30th, 1897, were $4,603,623.57, of this $234,910.67 was received for private and reimbursing patients and from all other incidental sources. The expenditures during the year were, cost of maintenance, including officers' salaries, wages, clothing, food, ordinary repairs and incidental expenses, $3,893,175.23; on account of new buildings for patients, $608,556.73; for repairs, renewals, improvements, etc., $596,035.10; total, $5,489,819.49.

The average number of patients in the State hospital system during the fiscal year was 19,901. The number of admissions exclusive of transfers was 4370. The whole number of insane in State, public or private asylums in New York State on September 30th, 1897, the close of the fiscal year for which this report is made, is 21,683. This includes the inmates of the Matteawan State Hospital for Insane Criminals and 840 inmates of licensed or private institutions.

During the year covered by this report the rate of maintenance per capita was $196 per year. The Commission explains this increase of ten dollars in the per capita expenditure over the years '94, '95 and '96 as due to improvements necessitated by the very bad condition of the asylums of New York and Kings County; and the immediately necessary improvements having been made in these institutions they anticipate that the rate of maintenance for the coming year may again be reduced to $186 or $3.58 per week. This expenditure for maintenance, the Com-

missioners show, includes officers' salaries, employees' wages, provisions and stores, ordinary repairs, maintenance of farm and grounds, clothing, furniture and bedding, books and stationery, fuel and light, medical supplies, miscellaneous supplies and transportation of patients, including expenses of nurses who go for patients and accompany them from their homes.

We are glad to note that the Commission has recognized the fact that the recovery rate should be estimated upon the new admissions and has abandoned the method which was adopted in the earlier reports of the Commission, the defects of which were pointed out in a former review in this JOURNAL. The recovery rate from the original State hospitals, that is, all the hospitals except Kings County and New York, is 27½ per cent. on the number of cases admitted from their homes, or original admissions. This is certainly a very gratifying showing when we consider that this represents statistics taken from all of the insane in the State requiring public care with the exception above noted. We cannot refrain from quoting the concluding remarks of the Commission upon the subject of maintenance, and these wise remarks are commended to the perusal of all who are interested in the care and maintenance of the insane at public expense. "The whole question of maintenance of the insane is one of sound financial policy; it is not in any sense a charitable matter. Justice and humanity may enter into the subject to some extent, but primarily it is one of policy and common sense, and obviously that policy should be pursued which will result in the greatest financial gain to the State, and when this is accomplished justice and humanity will also have been satisfied."

Much of interest will be found in what the Commission and committee of superintendents have to say upon the question of dietary, and an examination of dietary printed for the month of April, 1897, certainly proves that the inmates of the State hospitals are, as far as food is concerned, well provided for; and it certainly seems that the per capita of $1.16½ per week for provisions and stores (including crockery, tableware, and miscellaneous articles) proves, in view of this liberal dietary, that great economy is manifested in this department of the State hospital administration.

The report includes the second annual report of the Pathological Institute. This Institute is, as is well known, situated in New York City and is under the direction of Dr. Ira Van Gieson, aided by a liberal staff of assistants, and does the pathological work for all of the State hospitals. Much of this report it appears to us is decidedly unsuitable for conveying to the minds of legislators, for whom the report is ultimately intended, a very clear conception of the necessity of scientific research such as is outlined in the program of the New York State Pathological Institute or of the work to be accomplished. The first section is taken up with a review of advances which have been made in the care and treatment of the insane in general and has little to do with scientific research, although the

writer says all of the enlightenment and humanity shown in the treatment of the insane to-day, as contrasted with their pitiable state of a hundred years ago, have been accomplished by science. This is somewhat in contradiction to the deprecatory remarks, with which the second section of this report opens, applied to scientific work which has preceded the era which is to be opened by the work of the New York State Pathological Institute. The course which Dr. Van Gieson and those associated with him have outlined is certainly very broad and comprehensive. It embraces not only the study of the pathology of insanity, but of its etiology, or as the author puts it, "sources." Perhaps not all of his readers will agree with the author of this report that psychiatry is the most vague and incompetent of all the departments of medicine, nor will there be a general acceptance of the rose-colored promises held out for the new science, which he has christened Psycho-Pathology, certainly not until something more than promises are given to us. In view of what Dr. Van Gieson says of the work of science, in producing the ameliorated conditions of the insane, and of the advances in the care and treatment of the insane which the last hundred years have witnessed, we can hardly reconcile therewith the author's statement that "Psychiatry is in the same position of fifty or sixty years ago." "It neither makes observation nor does it know how to experiment, nor can it reflect on the desultory facts that it is recording. It neither shows any new material from the external world, nor is it able to give out anything original." We are ready to agree with the writer when he distinguishes between the art of caring for the insane and the scientific aspects of the same, but at the same time are not willing to accept the wholesale, and we believe unjust, criticism of the work of the past. That his view of the status of psychiatry at present is not in general accepted, we think is shown by the remarks recently quoted in this JOURNAL from Von Jaksch.

The present report is largely made up of theoretical suggestions as to what may be accomplished, together with very excellent suggestions as to how the work of the study of insanity upon scientific basis could be carried on. We think all who have had any experience with pathological work in psychiatry will agree with the writer that practically no results can be expected of great value from the mere study of sections of brains of persons who have died insane, indeed, the reviewer has on more than one occasion compared this work with an attempt to discover what was wrong with a delicately constructed steam engine by an investigation of the ashes from under the boiler which supplied it with steam. We trust that the State of New York will continue as in the past to liberally support scientific investigation, but we hope for the sake of success of future applications for appropriations for this work, that the institute will be able, notwithstanding what is said as to the necessity of going slow, and of avoiding haste and careless deductions, to show in the next report some work accomplished. The statement that the cause of dissociation of consciousness, synonymous with many

phases of insanity, is due to the retraction of the arms of the nerve-cell is a deduction which in the present status of our knowledge of the process of the nerve-cell, and of its functions and life history, is, to say the very least somewhat premature, and is possibly an example of that haste which the author so thoroughly deprecates. An example of hasty deductions and some confusion of terms and ideas is shown in the following, from page 148: "With the exception of the discovery of the neuron theory, Sidis' conception of the dissociations of consciousness, the theory of neuron energy fluctuation, the theory of retraction and expansion of the neurons and Flechsig's plan of the association centers and sensory spheres of the brain are the greatest discoveries which have ever been put forth in the history of our knowledge of the nervous system. The effect of the application of these four great hypotheses (for observation at present in my own belief, at least, is increasing their validity) will indeed be revolutionary in the domain of mental and nervous disease." The whole report of the Pathological Institute is one which deserves careful study, and we may, in connection with the report recently issued by the Institute (the Archives of Psychiatry), again return in these pages to some considerations of the work of the Institute. There are many things in the report of the New York State Commission of which we would be glad to speak, but our space forbids further consideration of this interesting volume.

Fourteenth Annual Report of the Committee on Lunacy to the Board of Public Charities of the Commonwealth of Pennsylvania, for the year ending September 30, 1896. (Clarence M. Busch, State Printer of Pennsylvania, 1897.)

This report marks the commencement of an era of decadence, we fear, in the care of the dependent insane of the State of Pennsylvania. We have never felt that the Committee on Lunacy of the State was sufficiently alive to the importance of State care of the dependent insane, although we believe in its earlier reports the Committee was fairly committed to State care as a policy without, however, very energetically urging it upon the legislature. There has existed really no good reason why all of the cases, acute and chronic, in the State of Pennsylvania could not have been for years properly provided for in State hospitals. Instead of this, there has been a most deplorable lack of public spirit in the State, and as a consequence there are at present over 2400 insane persons in almshouses, of whom 1200 are in the Blockley almshouse at Philadelphia, an institution which has been long since condemned as an improper place for the care of even one-fourth that number. The Commonwealth of Pennsylvania, with its population, wealth and resources, certainly is able to follow the example of some of its sister States, like New York, and adopt State care. We regret to say, however, that the Committee of Lunacy of the State, while, as we have intimated in former reports, it has urged with greater or less persistence State care for all of the in-

sane of the State, in this report takes a decidedly backward step and endorses a system of county care for the dependent insane of the chronic class as the best solution of the problem which confronts it. It is true that in 1895 the General Assembly of Pennsylvania passed an act that districts which should supply a hospital for the insane upon plans duly approved by the Board of Charities might maintain their insane in such institutions and receive the same allowance in money from the State treasury for their maintenance as was paid to the State hospital for the maintenance of the indigent insane. Each county hospital was required to have a medical superintendent and to employ proper nurses and to furnish a quality of care equal to State hospitals. The Board say that these conditions were unfortunate. It seems to us that they were very wise and proper. Under its provision six municipal and county institutions of the State have availed themselves of the benefit of the law and are receiving, according to the report of the Committee, and treating all "classes of cases" of insanity, some "of them" exhibiting as good results of treatment as that (sic) of any State hospital. There is no evidence that these county and municipal institutions are directed by skilled physicians, experienced in the treatment of the insane, whose judgment as to recoveries is to be depended upon, or that, indeed, the institutions having been established for economical purposes by the county or municipality, the desire for economy does not in a measure influence the production of premature discharges. Not only on the score of economy by getting rid of the patient may this be done, but in order to show such good results as to justify the establishment of the institution. No one of any extended experience in the reception of cases previously discharged as "recovered" from institutions of this character can fail to recall numerous instances of patients so discharged, who in an institution with an established standard for recoveries would have been recorded as improved, or in some instances not improved. We think, therefore, the Committee of Lunacy before making statements as to the high standard of these county institutions, even though the standard is fixed by law, should assure itself by some competent authority that the conditions represented in the number of recoveries are as they are claimed. The Committee does not think that the law of 1895 sufficiently meets the requirements of the State of Pennsylvania; and, therefore, after their secretary has visited the State of Wisconsin and examined five of the twenty-three county asylums then in operation in that State, less than one-fourth, be it observed, of the entire number, and made a most enthusiastic report of the status of affairs there found, earnestly recommends the adoption for the State of Pennsylvania of the so-called Wisconsin System. The secretary quotes somewhat largely from a paper read before the National Conference of Charities by Mr. James E. Heg, President of the Wisconsin Board of Control, in which he shows that the average cost in Wisconsin County Asylums, including everything, is about $1.75 per week. In the institutions visited by the secretary the cost varies from at least $2.00 per week, the highest, to $1.13 per week,

the lowest. Rather a wide fluctuation, it seems to us, especially when it is known that the lowest rate reported by the secretary of the Pennsylvania Committee was in an institution having but ninety-five patients. Ordinary experience goes to prove that the smaller the number of patients the higher the per capita cost. It is rather interesting to examine the arguments concerning the economy of the Wisconsin System which are put forth by the Board of Control of that State. It appears that each county erecting an institution is allowed from the State treasury $1.50 per week for each patient so maintained; that as long as this patient is in the State institution the county pays $1.50 per week and for his clothing, the State meeting the balance of the cost of the patient's maintenance. Under the county asylum system the Board of Control contends that the counties receiving $1.50 from the State treasury and not being called upon to pay the $1.50 for the maintenance of the patient in the State asylum make $3 per week; and that, as the average cost is about $1.75 per week, the county makes the difference, or in other words the cost to the county for each patient is about twenty-five cents per week, taking the average expenditure as a basis. One naturally inquires where the money paid from the State treasury to the counties comes from. The allegation of the State Board of Control looks very well on paper if one is able to conceal from himself the fact that all the money in the State treasury comes from taxation of residents of the State, more or less direct. It is true that some counties, more populous and more wealthy than others, pay a larger proportion of the taxes, but in fact the money comes from the people of the State, and in greater or less proportion, from the people in the very counties in which these county institutions are established. It would seem to us, therefore, that the Board of Control of Wisconsin has been in a measure guilty of attempting to hide the exact status of affairs as far as the cost to the various communities is concerned, and that the Pennsylvania committee is lacking in discernment in not discovering the fallacy. We have read with some care the report of the secretary of the Pennsylvania Committee to his board on the Wisconsin System and can only say that we trust that he has since making his report read with equal care the report on the Wisconsin System that appeared in this JOURNAL for October, 1898. We shall watch with considerable interest the Wisconsin System as adapted to Pennsylvania methods. If it should be found to be the best solution of the great problem of how to care for the constantly accumulating chronic insane, we shall certainly hail it with gratification; in the meantime, however, we are compelled to express our doubts as to the wisdom of the move unless the supervision of these county institutions can be much more strict than is commonly the case. The recent revelations as to county institutions in the State of Maryland which are found in the Maryland Lunacy Commission's report for 1898 show what occurs in a small State and the dangers which are imminent when numerous county institutions are spread over the great Commonwealth of Pennsylvania.

Thirteenth Report of the Lunacy Commission to his Excellency the Governor of Maryland, December 1st, 1898. Baltimore, Md., 1898.

Since the last report of the Maryland Commission was issued, Dr. William Lee, its secretary since the Commission was established, has died. The Commissioners have been fortunate in securing the services of Dr. George J. Preston, an experienced alienist, to fill the vacant position. The whole number of insane in Maryland confined in almshouses, jails, public and private institutions is 2382. Of this number 1153 were in city and State hospitals, 770 in private or corporate institutions, 307 in county asylums and 152 in county almshouses. These figures are to some extent misleading to those not fully acquainted with the status of affairs in the State. There were remaining on December 1st, 1898, in the two State asylums of the State 715 patients. There were in the insane departments of the Bay View Asylum 358 patients, and at the Owings Mills State Institution for Feeble-minded 80; but the Bay View institution, although very much improved over its condition three or four years ago, should not be classed, as far as accommodations for patients and general methods of care, with a properly conducted State institution. These 358 cases, together with the 459 cases in county institutions, 817 in all, represent the number of cases in the State under charge on the first of December last for whom State care should be provided in properly organized and equipped hospitals. There are, moreover, among the patients at Mt. Hope Retreat, where there were on the first of December last 612 cases, a considerable number (288 in 1897) supported at public expense. Doubtless were there sufficient accommodation in State hospitals, a large proportion of these would be treated under the direct supervision of the State in these institutions, so that practically the State of Maryland before it can be said to have done its duty by the dependent insane must provide at least one thousand beds in its State institutions. In the report before us, the portion taken up by the Commission in its report to the Governor is very brief and contains little that is worthy of notice unless it be the fact that in the face of the disgraceful condition of affairs reported by its secretary in many of the county institutions of the State, the Commission should find so little to say, making practically no comment upon the secretary's report on these points. The Commission states that the most serious problem that has confronted it was the manner of the commitment of the insane from Baltimore to public institutions. Some years ago a Mayor of the city of Baltimore finding that the expense and delay in the commitment of the insane at public expense incident to the requirements of the law, still on the statute books, that no person should be committed at public charge except by trial by jury, directed that the health commissioner of the city should grant permits for the admission of patients to various public institutions at the expense of the city upon the presentation of two certificates of insanity, such as were used and are still used for the committal of private patients. It is not necessary for us to go into the scandal which grew out of this condition of affairs,

but the authorities of the city and the Commission of Lunacy were repeatedly informed that this method of committing the insane to public institutions from the city was illegal, even though the directions of the Mayor were backed by an ordinance of the City Council. The problem, therefore, which the Commission says confronted it during the year was an old one, and not any more serious than the equally important problem as to the commitment of all of the insane, public or private. Fortunately no judge has yet felt it incumbent upon him to pass as to the constitutionality of the lunacy law of Maryland, but several judges have intimated very clearly that were the constitutionality of law called in question they should at once feel it incumbent upon them to declare it unconstitutional. In a recent trial upon a writ of *habeas corpus* in the case of a patient committed to an institution in Maryland upon the certificates of two physicians residing in the State of Virginia, the judge who presided clearly stated that were it necessary to pass upon the constitutionality of the law of Maryland he should declare it unconstitutional, but in the case in point the commitment of the patient upon the certificates of physicians from out of the State was so clearly illegal and improper that it was not necessary to go further into the question, and he therefore ordered the discharge of the case. Almost the only reference which has been made to the state of affairs reported by the secretary is to the case of a man incarcerated in one of the county almshouses in the most filthy surroundings, where he was discovered by a committee of ladies visiting the institution. It is but just to the Commission to say that when its attention was called to the case active steps were taken for his removal to proper surroundings in the State hospital. This single case is a sufficient example, were others lacking, of the deplorable state of affairs which attends almshouse-care of the insane, a state of affairs which we regret to say does not seem to have made thus far much impression upon the Commission. In April, 1897, three papers were presented to the Medical and Chirurgical Faculty of the State concerning the care and treatment of the insane at public expense, one by the late Dr. George H. Rohé, and the other two by Drs. Henry M. Hurd and Edward N. Brush. Dr. Rohé showed conclusively the poor economy as well as the inhumanity of a county system of care of the dependent insane. Dr. Hurd discussed State supervision of the insane and pointed out the necessity for thorough inspection of all institutions where the insane were detained, of the necessity for scrutinizing and, if necessary, revision of commitment papers, and a definite and uniform system of statistical reports. He also called attention to the serious defect of the lunacy laws of the State and to the lack of authority on the part of the Commission to enforce its rules. Dr. Brush detailed a condition of affairs in the county institutions which he had discovered by means of circular letters of inquiry to physicians in charge of these institutions, and called attention to the deplorable lack of proper nursing and attendance and to the fact that chains and shackles were still used in these institutions, and that he had found at least four instances of such use. In

the discussion which followed, several members of the Commission who were present seemed to think that these papers were intended as a criticism of the Commission, while it was clear upon the face of the papers as well as from the statements of those who read them that they were simply criticisms of the system and of the defective laws which permitted such a system. Other speakers who came to the support of the Commission seemed to think that an almost ideal state of affairs existed in Maryland. While admitting that possibly the laws were not perfect, one speaker contended that "whate'er was best administered was best." The report of Dr. Preston most signally confirms all that was said and shows that even a worse state of affairs exists than was then intimated. It is certainly a pretty clear refutation of the claim of a good administration under poor law. Whether this criticism came from persons who had lived a long or short period in the State of Maryland had nothing to do with the question. The papers were offered with no other intention than to draw attention to the lack of proper care of the indigent insane of the State and to awaken public and professional interest in securing better care and a better system of laws; and the suggestions were made after a more thorough inquiry into the condition which existed and a better knowledge of those which should surround the care of the insane and a larger experience with proper laws and good care than the combined experience of those who attempted to cast doubt and discredit upon the assertions made in these papers.

The secretary in his report speaks well of the State hospitals, but is unable to use as commendatory expression regarding the city asylum at Bay View or the various county asylums. He says of the county asylums, "they are all constructed on the old plan, are in most instances inadequately equipped, and have a very limited amount of money at their disposal. As a result of this the number of attendants is far below what it should be and the patients suffer in consequence." In these county asylums there were, according to the secretary's report, 307 patients, in the county almshouses 152. These latter institutions the secretary says with few exceptions "must be regarded as somewhat of a disgrace to the State." "As a consequence of an almost total lack of any attendants in the almshouses it is a rule to employ the most primitive and extreme modes of mechanical restraint." Hand-cuffs, fetters, muffs, etc., are used, and in one instance the secretary saw a negro imbecile with an iron ring around his foot chained to a tree. "The accommodations for patients are generally described as filthy, and the freedom with which the sexes mingle is scandalous." The secretary concludes:

"Thus it will be seen the care and treatment of the insane are excellent in our State institutions, only fairly good in the county asylums, and distinctly bad in the county almshouses. Of course the logical conclusion is that the State should care for all its indigent insane. Only in this way can these unfortunate persons be properly treated, and in the long run the expense would be but little greater than under the present system. Even if the per capita cost should be somewhat increased, this is no

argument against this plan, for certainly it is the duty of the State to provide adequate accommodations for this most unfortunate and most helpless of all the dependent classes, and to do all in its power to promote recovery by appropriate treatment. It goes almost without saying that under the careful attention of our State hospitals for the insane a very much larger per cent. of patients will recover than do now recover under the inadequate county care.

"Of course this radical change must take place gradually, since our State institutions cannot as yet provide accommodation for all the indigent insane. In the interim the Lunacy Commission should be granted the authority to remove all acute cases and all cases requiring mechanical restraint to the State institutions. This would give the acute cases a very much better chance of recovery, and would do away with the inhumane system of mechanical restraint. There are in the almshouses a considerable number of cases of dementia and idiocy that are perhaps as well off in these institutions as elsewhere, but certainly it is entirely improper to subject the acute cases to the inadequate treatment so often bestowed in the almshouses. At present the Lunacy Commission has only advisory powers, and to show how barren these powers are, it may be said that the secretary has, in the past few months, written to the county commissioners of a number of counties concerning the removal of patients from almshouses to one of the State institutions, and in no instance has his letter been answered.

"This plan would, of course, include the removal of the city's indigent insane from Bay View, and the present new building, now occupied by male insane patients, might be utilized as a detention hospital, where insane persons could be kept pending an investigation into their mental condition, or until they could be committed to one of the State asylums."

We can give our hearty assent to the recommendations of the secretary, and we trust that when the Commission has thoroughly digested his very able report it will see its way clear to unite with those who have been for years endeavoring to awaken public sentiment regarding the very deficient and, as the secretary says, disgraceful care extended to the dependent insane in the State of Maryland, and that it will also unite with those who have been endeavoring to remove from the statute books of the State the most inadequate and inefficient lunacy law with which we are acquainted and to substitute therefor a code of laws which will not only regulate the commitment and care of the insane, but will give to the Commission the very powers which the secretary has wisely suggested that it should have.

The Phonendoscope and its practical Application. By Prof. AURELIO BIANCHI, M. D., Parma. Translated by A. George Baker, A. M., M. D. (Philadelphia, 1898, G. P. Pilling & Son.)

This little book consists of lectures given by Prof. Bianchi at the time of the introduction of his instrument at the Medical Congress in Rome,

1894, and deals with the practical application of the Phonendoscope to the outlining of the various solid and hollow organs of the body, the similarity in general of the results obtained with those given by the Rœntgen rays and the mechanical construction of the instrument. In it the broad field of Phonendoscopy is indicated and the superiority of this method for the accurate estimation of the size and consistency of various organs over the older methods of auscultation and percussion is constantly reiterated. The only substantiation, however, of these assertions seems to have been a practical demonstration of the method at the time of the address.

The results are obtained by auscultation of the organs themselves, and also of sound-waves artificially produced, but modified by the organ under examination.

Detail of procedure for the correct application of the method by which only reliable results can be obtained is carefully given, its topographical uses alone are indicated, no mention being made of those discarded conditions in which other auscultatory aids to diagnosis are usually used. The text is copiously illustrated by charts, useful to one learning the method, and two additional chapters are introduced by other writers on the application of the method to ascertain the digestion of fluids and to following the course of pregnancy. C. D. P.

Half-Yearly Summary

In the Address in Medicine delivered before the Medical Society of the State of New York in February, 1899, Dr. Osler said: "Nature is inexorable, and red in tooth and claw with ravin, knows nothing of our humanitarian care of the individual. Careful of the type, careless of the single life, sacrifice is a law of being, a condition of existence. . . . Our ways, thank God! are not Nature's. Indulge as we may in speculations on the improvement of the race, in practice we care nothing for the species, only for the individual. Reversing Nature's method, we are careless of the type, careful only of the single life." The records of the SUMMARY for the last decade show the transition from Nature's methods in the care of the insane to those of the alienist physician. In this period, beginning with the domiciliation of the insane in properly equipped and organized institutions, has been witnessed the overthrow of the county house and the development of the hospital. The stages of this reform have been numerous and rapidly changing. "State Care," the "Willard Idea," the "Kankakee System," the "Toledo Plan," were shibboleths which led to the modern large hospital with extensive classifications recognizing the claims of the individual. Finally appeared the institution of laboratories for research into the pathology and causes of disease.

The following SUMMARY represents the transition to the next and highest function of the hospital—the medical treatment of the individual. Morbid anatomy, with other branches which contribute to general knowledge—psychology, anthropology, sociology—receives proper recognition, but slowly recedes before the inroads of practical medicine; pathological departments become accessory to clinical laboratories; and the microtome, gracefully, but none the less surely, yields its supremacy to the stethoscope and plessimeter. The physician, not neglecting the allied sciences, is devoted to the symptomatology of disease—"careful only of the single life."

Twelve hospitals (Tuscaloosa, Delaware, Indianapolis, Logansport, Independence, Danvers, Pontiac, Morris Plains, Bloomingdale, Utica, St. Lawrence and Dixmont) report either preparation for hospital wards, or the institution of clinical laboratories, staff conferences, journal clubs, and measures for the accurate analysis of cases at the bedside. The plan and the ideal are outlined with characteristic eloquence in the Utica report:

"Much has been accomplished in the matter of treating acute sickness by the adoption, after very careful deliberation, of clinical blanks and charts which shall be used at the bedside, thus superseding in a way the cumbersome case-book in which entries were made later and with less scientific accuracy and detail. Clinical facts take the place of glittering generalities, and platitudinous reference to things irrelevant is no longer made a part of the record. The patient is regarded and treated as such. His blood and secretions are examined, careful note is taken of his circulation, his sleep, his food, his weight, and the significance of these is duly weighed with reference to treatment. In thus approaching the patient from the physical side, eccentric conduct, which is the mere expression of his bodily condition, occupies as it should a subordinate place in the symptom-complexus. In other words, the more the acute patient is regarded other than in the light of an ordinary invalid, the less satisfactory is the work likely to become, and as a corollary to this proposition, the more the alienist physician views himself as practicing medicine on a basis different from that upon which the general profession operates, the less thorough must be the treatment."

Ungrateful would be omission of the name of the regretted Dr. Rohé, who was no less loyal to the mission of the SUMMARY than earnest and intelligent in his administration. It is worthy of him that in his last annual report upon the organization of the new institution to which he had devoted his best thought he was able to announce the attainment of an ideal. The description of the "open door system" carries with it the appearance of care for the individual patient which is the only basis upon which success in this direction may be accomplished. It is plain that words of eulogy are not needed where the monument has been more tangibly and more permanently built.

ALABAMA.—*Alabama Bryce Insane Hospital, Tuscaloosa.*—The invalid population on September 30, 1898, was 1310, of whom 362 were colored. The mortality during the past two years has been about 65 per thousand. They have been healthy years, and there has been no epidemic or generally prevailing disease. Most patients when admitted are of middle life and over, defective and diseased otherwise than in their brains. Efforts in eliminating infection of tubercle bacilli are meeting most encouraging success. Its spread in the hospital has been practically prevented. If it were not frequently imported, it in time could be eradicated. Only 12 patients died of tuberculosis in 1897, and 13 in 1898—most of these colored women, who are very susceptible to it.

The scientific work in the Medical Department is kept well abreast with the advances of the day. The clinical histories, fever and epileptic charts, and ward records have been made and kept with greater fullness and increased skill. The pathological laboratory serves a most excellent purpose; it is of great value not only in the matter of diagnosis, but in the accumulation of most interesting material. Patients during the past two years have been quite fully gone over by outside specialists and attended to in the matters of teeth, eyes and ears.

The Training School issued certificates of graduation to seven women nurses in 1897, and to six women and four men nurses in 1898. The undergraduate classes have increased in numbers and interest. The advantage of this school is felt through the whole institution. It not only improves the service greatly, but it tends to improve the grade of persons applying for positions in the hospital; besides, each year it has furnished a number of intelligent trained nurses to other towns and institutions in the State.

ARKANSAS.—*Arkansas State Lunatic Asylum, Little Rock.*—At the close of the biennial period, November 30, 1898, there were 604 patients in the institution, of whom 106 were colored. The percentage of recoveries on admissions was 44, and the death-rate in the whole number treated was 6.98. Crowding and lack of facilities for classification have caused embarrassment, and the need of an infirmary is urged. Electric lights have been installed, and a large amount of work in the way of repairs and betterments has been accomplished. Dr. P. O. Hooper has been unanimously re-elected Superintendent for the ensuing quadrennium.

CONNECTICUT.—*Connecticut Hospital for the Insane, Middletown.*—The percentage of recoveries reckoned on the admissions for the period of nine years ending September 30, 1897, is as follows:

Whole number admitted from September 30, 1888, to October 1, 1897, 3500; whole number recovered during the same period exclusive of those from toxic insanity, 696; whole number recovered in the period including those from toxic insanity, 798; number of admissions in the period less those received from other hospitals, 3184; percentage of recoveries

reckoned on this number, 21.8; percentage of recoveries reckoned on this number including those from toxic insanity, 24.7; number of admissions in the period less criminals and those received from other hospitals, 2950; percentage of recoveries reckoned on this number, 23.5; percentage of recoveries reckoned on this number including those from toxic insanity, 26.7; number of admissions in the period, less old almshouse cases, criminals, and those from other hospitals, 2610; percentage of recoveries reckoned on this number, 26.6; percentage of recoveries reckoned on this number including those from toxic insanity, 30.2.

The hospital has been seriously overcrowded. Attics, stair landings, sitting-rooms, alcoves in the corridors, and removable cots in the halls, have all been utilized to meet and relieve the ever-increasing pressure. The opening of the Annex building for females, at the North Hospital afforded only a temporary relief, as it contains accommodations for only fifty patients. Delay in the admission of male patients continued to increase until a corresponding addition at the other extremity of the North Hospital for the care of men became an imperative necessity. This was accordingly built and furnished, and was opened for the reception of patients, April 26, 1898. This building is located at the north-eastern extremity of the North Hospital, and, like its counterpart for females at the opposite end of the building, is separated from it, but in close proximity.

It contains fifty beds, and is heated from the North Hospital boilers. Architecturally it is in harmony with the remainder of the block, while its internal arrangements and construction, as well as its location, are such as to adapt it for the care of the disturbed class of patients for whom it was designed. The wards are connected with the dining-room by a covered passage the same as at the other extremity of the building, through which the patients go to and from their meals without the risk of escape or exposure.

On January 1 of the current year, in conformity with the provisions of an act passed by the General Assembly at its last session and approved May 25, 1897, all the convicts remaining at this institution whose sentences had not expired, were transferred to the new quarters provided for them in connection with the prison at Wethersfield. This left the Annex building, where they had formerly been cared for, nearly vacant, and rendered thirty-three beds available for male patients. These have been utilized in caring for the criminal insane, and the convicts whose sentences had expired but who are still insane. The building is quite well adapted for this class on account of its greater security, its yard for exercise, and the workshop in connection with it.

The training-school for attendants has become a permanent feature, although it seems to be more properly an adjunct to the treatment of acute cases of insanity than to the simpler and less arduous care of the chronic insane. The sessions of the school closed for the year with the month of May, and were followed by oral and written examinations of the classes. The instruction is given almost entirely by means of text-

books and recitations, supplemented by lectures, demonstrations and clinical teaching. Seven members of the senior class passed their oral and written examinations with credit, and received certificates showing that they had completed the course. All are required to attain a percentage of 70 on the scale of 100, on recitations through the year, on the oral and on the written examinations. The highest percentage attained was 291.37 out of a possible 300, and the lowest was 255.38.

DELAWARE.—*Delaware State Hospital, Farnhurst.*—A bill has been introduced in the Legislature to establish at this hospital a fully equipped bacteriological and pathological station for the use of the State. It carries an appropriation sufficient to build and fully equip this, and the indications are favorable for its passage.

The biennial report, recently issued, shows that 276 patients remained under treatment at the end of the year 1898. This report includes the reports of the Pathological Department and of the Consulting Oculist and Aurist. The latter has examined and treated 110 patients.

INDIANA.—*Central Indiana Hospital for the Insane.*—The Legislature which adjourned on March 6th appropriated the following sums for this institution:

For each of two fiscal years commencing November 1st, 1899: Maintenance, $240,000; repairs, $15,000; clothing, $12,000. The specific appropriations are as follows: For a hospital for the "sick" insane, $110,000; for three dining-halls, $49,000; for completion of the greenhouse, $4000; for fire escapes, $5000; for plumbing, $5000; for painting, $5000; for clothing (additional), $3000.

—*The Northern Indiana Hospital for Insane, Logansport,* expects to be able to add two additional buildings, with capacity for two hundred patients, within the year, including two up-to-date infirmary wards and two single-room wards; also to expand and improve its water system by the installation of an air-lift plant and additional wells. A specific appropriation of $85,000 has been made by the General Assembly, and the maintenance appropriation increased to $100,000 per annum.

It is gratifying to note that a recent census of the insane of Indiana has developed the fact that within the last twenty years the ratio of insane to population has been reduced from 1 in 565 to 1 in 675. Dr. Rogers attributes this improvement altogether to the wide extension of State care in the early part of the period named.

IOWA.—*Iowa Hospital for the Insane, Independence.*—The SUMMARY has received from Dr. Hill a copy of the first issue of the "*Bulletin of Iowa State Institutions:* a Quarterly Journal of the Scientific and Clinical Work in the Hospitals for the Insane, and in the Institution for the Feeble-Minded, and Containing Information Touching all Other Institutions

under the Care of the Board of Control." The editors are the members of the Board of Control: F. M. Powell, M. D., Superintendent of the Institution for Feeble-Minded Children; Henry W. Rothert, Superintendent of the School for the Deaf; and A. H. Leonard, Superintendent of the Industrial School for Girls. The *Bulletin* is taken up with the papers and the discussions of the first quarterly meeting of the chief executive officers of the institutions which are under the direction of the Board of Control; together with statistics relating to institutions under control of the Board.

The formal contributions to the *Bulletin* include: "Estimates and Vouchers," by L. G. Kinne; "A Hospital Dietary," by G. H. Hill, M. D.; "Epilepsy," by F. M. Powell, M. D.; "Some Observations Concerning the Blind," by T. F. McCune; "Education of Boys in Industrial Schools," by B. J. Miles; "A System of Internal Accounts for Institutions," by Frank C. Hoyt, M. D.; "The Grading System in Prisons," by W. A. Hunter; "Psycho-Physiological Reasons for Manual Labor in the Treatment of the Insane," by Max E. Witte, M. D.

Dr. Albert M. Barrett also presents a paper upon the "Clinical and Laboratory Work as Organized at the Independence Hospital." The writer emphasizes the distinction between laboratory and clinical methods of investigation, and describes the effort at this hospital to introduce the latter. Complete case histories are to be kept, and the physical and mental examinations are to be thorough, with bedside records and charts of the temperature, pulse, respirations and administration of medicines. A journal club has been organized. The clinical laboratory work includes the analysis of the urine and bacteriological work, in which inoculations from diphtheritic throats have been worked out, and the Widal reaction tested. Finally, there is the preparation of material for the autopsies, which are to be followed by the study of specimens from all organs showing pathological changes, and the study of the nervous system, for which Nissl's method is preferred. As an evidence of work in this direction there has been published a pamphlet record of post-mortem examinations from March 3, 1897, to December 8, 1898, seventy-eight in all. During this period there were eleven deaths in which no post-mortem examination was made.

—*Iowa Hospital for the Insane, Mt. Pleasant.*—During the winter the new shops have been opened and the industrial department organized. The woodwork shop is now making furniture of all kinds, the shoe-shop manufacturing all of the shoes, for both men and women, and in the clothing factory all needed clothing is made. The tin-shop is just beginning to turn out work, and will supply tinware and do all the repairing. The blacksmith-shop will be opened in a few weeks, and a printing and binding-shop is to be installed in the next quarter. All these industries are conducted by patients, with the exception of one general foreman, who is a paid man, making the exception of course of the clothing factory, which has women employees working with the patients.

No building will be done this season further than to make some extensive changes in the ventilating and drainage system.

—*Hospital for the Insane, Cherokee.*—The appropriation for land has been expended in the purchase of 600 acres of land. About $400,000 of the amount appropriated for buildings has been expended in the erection, roofing and enclosure of the building, the interior of which is unfinished. Of the $100,000 unexpended, $50,000 is available July 1st, 1899, and $50,000 is available July 1st, 1900. The institution, as planned, has a capacity for about 450 patients. The intention, however, is that cottages shall be erected, so that ultimately the capacity of the institution will be about the same as that of the other hospitals.

MARYLAND.—*Second Hospital for the Insane of the State of Maryland, Sykesville.*—The last report of the lamented Dr. Rohé gives the following statement of the progress of the new institution organized by him:

"The first group of cottages was completed by the contractors, and by them turned over to the Building Committee on February 28, 1898. The furnishing was immediately begun, under the direction of the Superintendent, and on March 8th, one of the cottages was occupied by fifty patients, transferred from Bay View Asylum. On March 23rd, fifty more patients were received from the same institution. On July 12th, twenty-seven, of whom fifteen were epileptics, were transferred to the hospital from Bay View. The patients who had occupied the Buttercup Cottage since the opening of the hospital in 1896 were also removed to the new buildings, and that cottage prepared for the reception of insane epileptic patients, in accordance with the desire expressed by many members of the General Assembly, who urged that the Board should make some provision for this class of unfortunates.

"The Buttercup Cottage was opened for epileptics on July 12th, and at present there are nineteen of these patients cared for in this building.

"Other patients were admitted from the city of Baltimore and several of the counties of the State, bringing the total number under treatment during the year to one hundred and ninety-one. Of these there were discharged as recovered two; one was discharged as improved; one eloped and has not returned, and eight died. The deaths were due to the following physical causes: One tuberculosis; one pneumonia; two pneumonia and exhaustion, following status epilepticus; one exhaustion of confusional insanity; one old age (81 years); one uremia, and one paralysis of syphilitic origin.

"The new buildings, described in the last annual report, have now been occupied over six months, and a brief review of their adaptability for the purpose for which they were designed may be permitted. Many of the visiting officials from other States, who saw the buildings in course of construction, and who had studied the outline plans, expressed doubts of the possibility of caring for all classes of insane patients under

the conditions of almost absolute freedom here obtaining. If there were any personal doubts upon this score, these have been entirely dispelled by the experience of the past seven months. I congratulate the Board upon having given to the people of the State of Maryland the most perfect and consistent example of the 'open door' hospital for the insane in the world. In the cottages no doors are locked except the linen closets and the doors opening on the fire escape stairs. The main entrance and exit doors are never locked, either night or day. All windows on the first floor open freely to the top, while in the dormitories and single rooms a sash-lock prevents the raising or lowering of the sash more than six inches. This is a precautionary measure against suicide. A suicidal patient in the dormitory might elude the watchfulness of the attendant sufficiently to throw himself from the window before he could be prevented. The sash-lock is not depended upon as a preventive of escape; here the watchfulness of the attendants is alone relied upon. Attempts at escape are not rarely made by patients when first admitted, but the absence of locked doors and barred windows seems soon to exercise a deterrent effect upon these attempts. During the year only six patients succeeded in escaping from the grounds, five of whom were promptly returned, generally within a few hours. In the remaining instance the wife of the patient declined to give information of his whereabouts until after he left the State. It has been demonstrated by experience that the open wards and dormitories, which have been regarded by officials from other institutions as unsuitable for treating acute, disturbed or destructive cases, are especially adapted to this class of cases. The night attendants on duty in the wards throughout the night have found that the restless and noisy patients sleep much better on the open ward than in the single rooms, and the latter are entirely given up to quiet or convalescent cases, or, in one instance, to a tuberculous patient, who is thus isolated to limit the possibility of infection.

"It may also be noted, that there is not a single night vessel in use in the three cottages. It is the duty of the night attendant on duty in each dormitory to exercise the greatest care in preventing soiling of the bedding. The patients, when answering the calls of nature, are required to go to the toilet rooms, which are conveniently accessible.

"The lavatory facilities in the dressing and toilet rooms are abundant, and cleanliness is enjoined upon all, officers, attendants and patients, as one of the greatest virtues. The consumption of water has averaged about ninety gallons per head per day.

"The cottages give an initial air-space in the dormitories of 1000 cubic feet per bed. The ventilation, even in cold weather with most of the windows closed, is so effective that, after the patients have occupied the rooms all night, not a particle of odor is noticeable in the morning.

"The present group is capable of accommodating two hundred patients without crowding. The cost of construction, including heating plant and plumbing, was $744.00 per bed. This includes the kitchen, dining-rooms, store-rooms, offices and quarters for officers and attendants, but does not include furniture or outfitting.

"The greatest number of patients employed in any one day was 93.91 per cent., while the minimum number employed on any day except Sunday was 40.90 per cent.

"Work was begun upon the second group of cottages, intended for women patients, on September 28, 1898. The plans for this group were made by Mr. Joseph Evans Sperry, and while, in the main, following out the general design of the first group, certain changes are made which will, it is believed, facilitate the administration of the group."

—*The Sheppard and Enoch Pratt Hospital, Towson.*—This hospital has become The Sheppard and Enoch Pratt Hospital in name and in fact. On December 21st last the Court of Appeals handed down the decision sustaining the decision of the Circuit Court of Baltimore in the matter of the will of the late Enoch Pratt, and the residue of his estate, amounting now to about one million dollars in value, is now in the hands of the trustees of the hospital. The decision of the Court of Appeals was a unanimous one and sustained the contention of the trustees upon all points and gave a very broad and liberal interpretation of the will of Mr. Pratt.

MASSACHUSETTS.—*Danvers Lunatic Hospital, Danvers.*—An innovation in the table service is described as follows in Dr. Harrington's annual report:

"The congregate dining-room deserves special mention, because I find that the problem of how the greater part of the patients may be given their daily meals under conditions which promote their comfort and happiness, and which, at the same time, are economical, diminishing also labor and friction, has been solved. To describe briefly the plan, nothing is done in haste. The patients enter the room leisurely and take their seats. No food is served until all are in their places. Hot food is then distributed by the nurses and also by some of the patients who have been chosen to assist. The room is decorated with potted plants, and an orchestra plays the entire time during each meal of the day. Breakfast and supper each occupy forty-five minutes and dinner one full hour. The music is one of the most important features of the plan, undoubtedly promoting quietude among the patients. The greater part of the music rendered is classical. The following is a programme, not prepared especially for this report, but just as it was given one day last month:

BREAKFAST.

March, "The Lenox".....Geo. Weigand.
Overture, "Rosamunde".....F. Schubert.
Selection from "The Serenade".....V. Herbert.
Hymn, "Old Hundred."
March, "Stars and Stripes".....Sousa.

DINNER.

March, "The Puritan".....T. Moses.
Overture, "Morning, Noon and Night".....F. V. Suppe.
Selection, "Hungarian Fantasia".....T. Tobani.
Andante from "Surprise Symphony".....Haydn.
Valse in E minor.....Chopin.
Hymn, "Old Hundred."
March, "U. S. March".....M. Levi.

SUPPER.

March, "Black America".....Zeikel.
Ballet from the opera of "Faust".....C. Gounod.
"Polish National Dance".....X. Scharwenka.
Hymn, "Old Hundred."
March, "On the Move".....Bailey.

"The therapeutic value of this plan comes out in this way; viz. the food can be served hot; the patients are allowed ample time to eat; they listen with enjoyment to the music, which is evident by their frequent applause; they get an agreeable change in going from their wards, and, counting the time spent in the dining-room and that going to and from the wards, three hours of the day are occupied."

Dr. Worcester, the pathologist of the hospital, reports the inauguration of regular meetings, attended by the whole medical staff, for the clinical study of patients.

It had previously been the custom to read and discuss the papers furnished on admission and notes of examination made at the time of admission at meetings of the staff; but since the latter part of the winter nearly all new patients have been brought before the meetings, and cases of special interest have been repeatedly considered. The increased acquaintance of each member of the staff with all departments of the hospital and the interchange of ideas in regard to the nature and progress of the various forms of disease have been highly interesting and instructive to all who have participated. These meetings have been supplemented by meetings at the laboratory for the study of preparations from the cases in which post-mortem examinations have been made.

—*Massachusetts Hospital for Epileptics, Palmer.*—By proclamation of Governor Wolcott, the hospital was declared open for the reception of patients on May 2, 1898.

By act of the Legislature of 1895, "all the lands, buildings, and personal property" then belonging to the State Primary School were assigned to the use of this hospital, and, in addition, the sum of $160,000 was appropriated for the construction of such new buildings, and for making such repairs, alterations and additions to old ones, as should be deemed sufficient to accommodate 200 epileptics and the necessary officers

and employees. Thus was acquired a beautiful site, shaded by an old growth of elms and maples, on a hillside overlooking one of the most picturesque valleys of the Commonwealth. The farm of two hundred and thirty acres can be made very productive.

Most of the old buildings, being unfit for hospital purposes, were sold, torn down and removed. The brick power and laundry buildings were preserved and renovated for the central heating, electric lighting and power plants, machine shop, laundry, bakery, store and sewing rooms. An extra story was added to the old carpenter and paint shop, thus furnishing a large industrial room for male patients in addition to its original accommodations.

The long, one-story wooden hospital building was remodelled into quarters for subordinate officers and general employees. The other small hospital at the top of the hill will immediately be enlarged and converted into a cottage for twelve epileptic men.

On the west slope, at right angles to the line of the above and about five hundred feet away, a group of three new buildings has been constructed of red brick with granite trimmings. In the center stands the administration building, separated by a distance of one hundred feet from a hospital cottage on either side. It is about fifty by sixty feet and three stories in height. The first floor is occupied by offices, waiting-room, library, dispensary and small laboratory, while the two upper stories provide living apartments for the medical staff and other officers.

The hospital cottages are equal in size and identical in form, one being designed for women and the other for men. Their general shape is a rectangle, fifty by one hundred and twenty-five feet with an ell thirty by thirty feet projecting from the north side at either end. In the southeast and southwest corners of each story are day-rooms, between which on the south are two large dormitories, and on the north two dining-rooms separated by a serving-room common to both. In each ell at the rear of the day-room are four bedrooms, in addition to bath, toilet and clothes-rooms. The incline of the ground to the north affords an extra story on that side, which is used for the kitchen. Each cottage is divided into four independent sections, each accommodating twenty-five patients.

The sewerage and water systems are especially complete and comprehensive.

The first patient was admitted May 16. Altogether, 101 men, 105 women, total 206, were received; 4 men and 1 woman were discharged; 1 man died; leaving at the end of the year 96 men, 104 women; total 200. The daily average number of patients was 130.83.

Owen Copp, superintendent of the Massachusetts Hospital for Epileptics, has been appointed executive officer of the Massachusetts State Board of Insanity.

MICHIGAN.—*Eastern Michigan Asylum, Pontiac.*—Analysis of the record of staff meetings during the year 1898 gives the following: 226 staff meet-

ings were held. 72 days were devoted to abstracting journals, monographs and asylum reports. In all, 225 journals were abstracted. 124 cases were presented for analysis; 27 original articles were presented, and on three occasions autopsies were performed. Another year's experience with these meetings impresses upon us more strongly the numerous advantages which result.

A new system of ward records is about to be established. This will be for the purpose of utilizing ward notes and permitting these notes to be filed with patients' histories. Each patient has an individual sheet, and all notes relating to the patient are recorded by the supervisor of the ward. The individual sheets are to be filed in the Tengwall files. This enables the attendant to instantly remove sheets and substitute new ones, without interfering with records of other patients. Clinical charts are filed with the individual sheets. Thus an easy reference can be made to the complete ward history of any patient. When the page is filled by the attendant it is to be immediately returned to the office, approved by the physician, and filed with the clinical history of the patient. The advantages of such a system are obvious. It facilitates office work, as the attendant records visits, summarizes convulsions and describes in detail assaults and conduct of patients. It also enables many valuable ward notes, which might otherwise be omitted, to be filed with the physician's record.

Dr. L. J. Goux, of Detroit, formerly assistant physician, who has been studying abroad, has been appointed consulting ophthalmologist to the asylum.

A bill is before the present Legislature providing for an appropriation of $70,000 for the erection of two additional buildings to accommodate 100 of each sex.

The following classification of forms of insanity manifested in new admissions has been adopted for statistical purposes, with the design of utilizing it in future Asylum Reports:

1. Mania:
   a. Acute.
   b. Chronic.
2. Melancholia:
   a. Acute.
   b. Chronic.
3. Periodic Insanity:
   a. Mania.
   b. Melancholia.
   c. Circular.
4. Hysterical Insanity.
5. Epileptic Insanity.
6. Alcoholic Insanity:
   a. Acute.
   b. Chronic.
7. Delusional Insanity:
   a. Primary.
   b. Monomania (Secondary).
8. Dementia:
   a. Primary.
   b. Terminal.
   c. Senile.
9. Paretic Dementia.
10. Organic Dementia.
11. Imbecility and Idiocy.

NEW HAMPSHIRE.—*New Hampshire Asylum, Concord.*—During the last year the Richard's Cottage for convalescent male patients was completed at the summer sanitarium at Lake Penacook, distant four miles from the main institution. This summer sanitarium now has a cottage both for male and female patients. The place has developed materially during the last two years and has become now a very delightful summer resort for the excursion parties from the main institution as well as for permanent residents throughout the summer months.

The session of the Legislature which has just closed has in many respects been one of the most important in the history of the New Hampshire Asylum. The question of State ownership was raised six years ago by certain politicians in the State who desired to oppose appropriations to the institution. It would seem almost unprecedented that a State institution should be obliged to fight before the Legislature for an ownership. During the fifty-six years of the institution's existence the State of New Hampshire had appropriated in all two hundred and fifty-five thousand dollars, and yet at this late date there were those in the State that said the State had no ownership in the property. The difficulty probably arose from the fact that the institution was started in a semi-private way. Certain donors who were anxious for the establishment of a hospital for the insane gave liberally on condition that the State would complete the institution, but after the question of management finally came before the State, the State itself was unwilling that the private donors should be represented. Accordingly the State itself arbitrarily assumed the management, dismissing the representatives of the private donors and allowing them if they chose to withdraw their funds. The donors who were only too anxious to have an institution established allowed their gifts to remain, but withdrew as gracefully as possible from the position from which they had been somewhat arbitrarily ejected. During the session of the Legislature which had just terminated, the question of State ownership was raised for the third time, and by vote of the Legislature was submitted to the Supreme Court for decision. The court rendered their decision to the Legislature that the institution to all intents and purposes was State property and was controlled by the State alone. After the question of State ownership was finally disposed of, the Legislature was asked by the trustees for an appropriation of fifty thousand dollars for the erection of a nurse's home, a new laundry, a farmer's cottage, and for other much-needed internal improvements. The appropriation was finally granted, it being the largest individual appropriation which the institution has ever received.

A very important act was passed by this same Legislature empowering the Governor to appoint a commission of five persons to investigate the entire subject of State care and State support and report as to the advisability of State support of all the dependent insane at the next session of the Legislature. This is the first time in New Hampshire that the Legislature has recognized the subject of entire State support. It is to

be hoped that this will be the beginning of a more enlightened care of the dependent insane of New Hampshire. At present a majority of this class are cared for in the various county almshouses, where little intelligent classification and treatment can be carried out owing to the limited accommodations and financial resources which are available.

NEW JERSEY.—*The New Jersey State Hospital, Morris Plains.*—The Legislature of last year passed an act, which went into effect on July 4th, 1898, making important and necessary changes in the forms for the commitment of insane persons in institutions in this State. The forms are essentially alike for the commitment of both pay and indigent patients, and consist of a written request by a relative or friend and the sworn certificates of two physicians, residents of New Jersey, who have been engaged in the practice of medicine for at least five years. These certificates must set forth a full identification of the person alleged to be insane, and shall bear date of no more than ten days prior to the actual commitment. Within five days after admission a certified copy of the commitment papers, made by the Medical Director, must be sent to the judge of the Court of Common Pleas of the proper county, and unless the judge's order of approval or an order extending the time be received by the Medical Director within fifteen days after such commitment, the law provides that the patient shall be discharged. This law has been in operation for eight months, and while more complicated than the old law, its results are extremely gratifying, as it places the responsibility for the commitment and detention of insane persons on the civil authorities where it properly belongs.

In order to relieve the overcrowded condition of the hospital a handsome three-story granite building is in course of erection. It will consist of an administration building, a north wing for male and a south wing for female patients, and is being built on the day-room and dormitory plan with a congregate dining-room. It will be lighted throughout by electricity and heated by a system which will be a combination of both the direct and indirect plans of heating. As the building is situated on the top of a hill, it will not be ventilated by forced draught, as is the case with the existing buildings. In the basement there will be a fully equipped kitchen in which the cooking will be done largely by the use of steam, which will be carried to the building through a 10-inch main, laid in a brick-lined tunnel and supplied from a new set of boilers some 800 feet distant. These will be situated in a new boiler-house, and will consist of a battery of six (6) 250 horse-power boilers of modern pattern, supplied with shaking grates and capable of supplying the new building with power, light and heat. Smoke will be carried from the boilers by a round steel stack 140 feet in height, 90 inches in diameter, self-supporting and surmounted by a copper hood. The foundation for the stack extends 28 feet into the earth. The new boiler-house will be built of granite and will harmonize with the other buildings in general architecture. It is situated directly in the rear of the boiler-house now in use

and contiguous to it, so that both sets of boilers may be used interchangeably.

A feature of special interest in the new building will be the laboratories, which will be thoroughly equipped for general and special pathological work. They will occupy the entire top floor of the infirmary section and will consist of general laboratory rooms for microscopical work, a room devoted to uranalysis and pathological chemistry, a section room in which imbedding and section-cutting will be done, and two dark-rooms, one of which will be used as a hardening-room and the other for photographic work. In addition to this there will be a private study for the use of the resident pathologist. The rooms will be liberally supplied with water sinks and gas fixtures and lighted by electricity. The floors will be tiled, with the exception of that in the main laboratory room, which will be of polished wood. The uranalysis-room will be lighted by means of a skylight, as well as the side lights coming from the windows. An autopsy-room will be placed in the basement directly underneath the laboratories and will be thoroughly modern in its equipment.

The new building will be provided with six infirmary wards, accommodating 10 patients each; and adjacent to these wards will be serving-rooms, bathrooms equipped with spray baths and lavatories.

It is thought that $150,000 will complete and equip this building, and the Legislature will be asked to appropriate that amount. Previous appropriations amounting to $250,000 have been made, a portion of which has been expended in the purchase of water rights and in the construction of a new reservoir with an estimated capacity of 6,250,000 gallons. The work on the reservoir has not yet been completed.

At the close of the hospital year the census was 1236, while at the present time it is 1265 and gradually increasing. The percentage of recoveries for last year was 25.10, which was good considering the class of patients admitted. In February, 1898, scarlet fever developed on the wards, but only 9 patients were infected with the disease, and by means of vigorous disinfection and isolation it has been effectually stamped out, there having been no return of the disease this year.

Changes in the medical staff have occurred as follows: Dr. J. H. Crosby resigned the position of apothecary, December 18th, 1897, and was appointed junior assistant physician of the Manhattan State Hospital, Ward's Island, and Mr. Peter J. Daly was appointed to fill the vacancy. Dr. Middleton L. Perry, fourth assistant physician, resigned April 1st, 1898, in order to continue his studies in Vienna and Berlin, and after a competitive examination Dr. Arthur Sherwood Corwin, of Madison, N. J., was appointed to the position made vacant by Dr. Perry's resignation. Dr. Thomas P. Prout, resident pathologist, was given a leave of absence for the purpose of prosecuting his studies abroad, and Dr. William H. Barton, of Boston, did the pathological work of the institution during his absence. On his return Dr. Eliot Gorton, first assistant physician, was granted a leave of absence, which he spent abroad visiting the more important hospitals of Austria, Germany, France and England.

The work of the training-school for nurses continues, and the character of the work done by the graduates has been highly satisfactory. In the recent war eighteen nurses were furnished to the hospital corps of the United States Army. Sixteen nurses were granted diplomas at the close of the examinations last season.

—*Essex County Hospital for the Insane.*—The Branch Hospital of the Essex County Hospital for the Insane was opened December 15th, 1898. Dr. Henry D. McCormick, formerly assistant physician at the home institution, was appointed Resident Physician, and Dr. Robert W. Chapman was appointed assistant physician, both institutions remaining under the general superintendency of Dr. L. S. Hinckley.

The Branch Hospital is situated in the township of Verona at a station known as Overbrook, on the Caldwell branch of the Erie Railroad. Two wings of a group of buildings, two stories high, are completed. The construction is of iron and brick and steel ceilings, best condition of ventilation and sanitation obtainable, the bathrooms and lavatories are finished in tile and marble, the Gegenstrom system is employed in each bathroom and a portable tub on each floor for emergencies. A unique feature of this grouping of buildings is that the kitchen forms the center of a +, the sky lines are artistic, formed by the varying heights of dormitories, corridors, dining-rooms and kitchen.

On December 19th, 245 patients of both sexes were transferred from the home institution at Newark, and thus far have been very comfortably housed in the new buildings. The census, March 1st, for both institutions was 806.

New York.—*The Society of the New York Hospital, Bloomingdale, White Plains.*—The Annual Report of Bloomingdale shows that a total of 432 patients were treated there during the year 1898, 341 having been there at the beginning of the year. The recoveries were 27; the improvements 34; the deaths 27. The ratio of recoveries is diminished, and the ratio of deaths is increased by the large proportion of paretics committed to Bloomingdale, owing to its proximity to New York City.

New remedies were tried systematically during the year, among them being "Diuretin," "Chloralose," "Methyl-Salicylate," externally applied, and "Lactophenin."

Urinary analyses were made of all women in the house, at a certain date, both old and new cases, with a view to ascertaining the development of nephritic trouble within the institution, as also its introduction in new patients.

Regarding "grip," the report shows that "66 women patients and 44 women employees, 10 men patients and 11 men employees, 131 altogether, suffered with the disease during the winter up to the end of December, the disease being introduced apparently by a woman patient from New York, who had the disease when admitted, December 5th; and since that date 'grip' has invaded every hall, the kitchen and

laundry of the institution. We were not able to trace a definite spread of the disease, which indicates its contagiousness. The first case was on Hall 4; the second case (December 7) was a nurse in Hall 7, not a contiguous hall; and the third case (December 8), a patient in Hall 3, far distant. The disease gradually became epidemic. December 19, 20, 21 and 22, 31 new cases arose, while cases continue into January, as this report is preparing."

No particular class of patients seemed to be exempt, but the feeble of course suffered the most. Cases usually began with chills, malaise, aching pains and headache, followed by a rise of temperature to 102° to 104°, or even higher; short, frequently repeated cough; pain beneath the sternum; prostration, loss of appetite and depression. Some cases responded at once to vigorous treatment, and were only of a day or twos' duration; but the majority were modified only in degree or alleviated symptomatically by treatment. Only 4 of the 44 women employees affected had severe attacks, while 24 of the 66 women patients had severe attacks, 4 developing pneumonia, 2 of whom died, and 1 died from heart complications. One of the patients who died from pneumonia was the first case of grip, and was admitted with it. She had acute melancholia, and had refused food for a week prior to admission, and showed an intolerance of food administered by tube and enema. The other death from pneumonia was a woman 88 years old, with chronic mania, difficult to treat on account of her delusions and suspicions. Very few cases were ill longer than a week; but all required tonic treatment after the attack.

Gynecological examinations by a competent woman physician, and examinations of the eye by Dr. Reese, a recognized oculist, were systematically pursued during the year.

All the approved old methods, and such new ones as were suggested, of occupying and diverting the minds of patients, were systematically used.

The institution, which is popularly supposed to be a high-priced private institution, conferring little benefit upon the community, during the year 1898 expended $50,484.13 in a charitable way, equivalent to maintaining 88 free beds throughout the year; and of the 432 patients treated during the year, 266 of them shared in the charitable assistance rendered, that is 61 per cent.; only 39 per cent. paid any profit to the institution.

There has been maintained on the Bloomingdale grounds, and under the charge of the physicians there, a Convalescent Home for about 10 men patients from the New York Hospital, New York City; and during the coming year a building with equal accommodation is to be erected, and devoted to the convalescent women patients from the New York Hospital.

—*Utica State Hospital, Utica.*—The success of the new agricultural colony, Graycroft, has been gratifying. On this leased farm over twenty male patients, nearly all of them of the chronic class, have been at work, effectively and happily, since spring. There is nothing about this little Gheel to suggest an unpleasant custody. The men lead the life of the

average farmer elsewhere. It is a sane life, it is the life to which they have been reared; it is the life—best test of all—in which they are happiest. So gratifying has the experiment been, not only as it affects the colonists, but in practical results as regards crops, that it is hoped most earnestly that the managers may succeed in making it possible to purchase the farm of 160 acres on which the State has an option.

Great efforts have been put forth in behalf of the acute insane, and the results of treatment have been gratifying. The sick have been differentiated from the well in body, and the former have been secured such hospital care as their physical condition demanded. This has been done by concentrating the best resources of the house in the reception wards and pursuing with reference to fresh cases the methods of remedial care that obtain in general hospitals. Much has been accomplished in this matter of treating acute sickness by the adoption, after very careful deliberation, of clinical blanks and charts which shall be used at the bedside, thus superseding in a way the cumbersome case-book in which entries were made later and with less scientific accuracy and detail. Clinical facts are taking the place of glittering generalities, and platitudinous reference to things irrelevant is no longer made a part of the record. The patient is regarded and treated as such. His blood and secretions are examined, careful note is taken of his circulation, his sleep, his food, his weight and the significance of these is duly weighed with reference to treatment. In thus approaching the patient from the physical side, eccentric conduct, which is the mere expression of his bodily condition, occupies, as it should, a subordinate place in the symptom-complexus. In other words, the more the acute patient is regarded other than in the light of an ordinary invalid, the less satisfactory is the work likely to become, and as a corollary to this proposition, the more the alienist physician views himself as practicing medicine on a basis different from that upon which the general profession operates, the less thorough must be the treatment.

—Hudson River State Hospital, Poughkeepsie.—

LAUNDRY FIRES.

The frequent occurrence of fire in connection with hospital laundries and the experience with two which originated in the laundry of this hospital within a year have led to an investigation of their causes and an inquiry as to the best means of overcoming or minimizing the dangers therefrom.

It should be unnecessary to state that in all new plants the hospital laundry should be detached from the wards, and in no case should patients be permitted to sleep in rooms over laundries. The recent experience in the Dakota asylum, where seventeen women lost their lives, shows, however, that it is not an uncommon practice to relieve the wards by such dangerous expedient when they become uncomfortably crowded In many of the older institutions the structural conditions are such that

the laundry is in dangerous proximity to the wards, and under such conditions it becomes the duty of the superintendent to exercise every possible care to prevent fire and to have at hand every reasonable means to control it when precautionary means have proved unavailing.

An examination of the records of hospital fires shows that by far the greater number, especially those which have occurred in the night, have arisen in connection with the laundry dry-rooms and it is that part of a hospital plant which needs the most complete equipment for fighting fire and the most conscientious attention on the part of the night-watchman.

Less than a year ago we were startled one morning at about half-past four by the alarm of fire. An investigation showed that it was confined to one of the sections of the metal (and fire-proof) dry-room containing eight racks. The laundry, at the time, was undergoing enlargement and the scaffolding which had been used for ceiling and painting the dry-room had not been removed. The flames shot up through the galvanized iron ventilator connected with the drying chambers, and for a time it seemed as if the scaffolding and wooden ceiling, which is an unusually high one, would ignite and that the building would be materially damaged, if not entirely destroyed. Fortunately, however, the flames were controlled by the hospital fire department and, beyond a scorching of the ceiling and a twisting of the metal drying frames, no damage was done. An investigation showed that the fire had undoubtedly originated by the clothing coming in contact with the steam pipes, which were heated under high pressure during the day, but were supposed to carry only a small amount of steam during the night. It had been the practice of the laundryman to load up the drying chambers with as much clothing as they would hold at about five o'clock in the afternoon and to then turn the steam almost entirely off and leave the clothing to dry during the night under a small amount of heat. Correspondence with the several superintendents in this State shows that this is the general practice. Thinking that this danger could be entirely overcome by directing the night-watchman to draw out the racks upon which the clothing is hung and to turn off the steam, completely, between eight and nine o'clock in the evening, we rested secure in the belief that another fire could not occur in the same manner. That this belief was not well founded was proved in less than a year by an exactly similar occurrence. At two o'clock on the morning of February 9th we were again aroused by the alarm of fire and found that the clothing in one of the dry-room sections had again become ignited, despite the precautions which had been taken to prevent such an accident. The night was very cold and stormy, but the fire brigade responded so quickly that the fire was shortly subdued, causing even less damage than the first one. Although the experience was very unpleasant, some useful lessons were learned, which, it is hoped, may be of sufficient value to record in the columns of the SUMMARY:

First. After each fire a dead cat was found in the débris. At first this was considered merely a coincidence and nothing specially was thought of it. When, however, the second was found, it became evident

that the cats had made their way into the drying sections where some of the bars had been drawn out a little, and in their efforts to get out had probably pulled the clothing down on the hot pipes, thus causing the fire. This would indicate the necessity for a wire guard above the pipes such as some manufacturers use, and would also suggest the thought that cats may become a source of danger as well as a nuisance about a hospital.

Second. The intense heat caused by the burning clothing, which was confined within the heating chambers, caused such an expansion of the metal that it was impossible to pull out the racks. In fact in the second fire it was necessary to break a hole through the metal for the introduction of the hose nozzle. This difficulty suggests the advisability of having the hot air chambers supplied with a water pipe which could either be perforated throughout its length or equipped with a spray nozzle. With a wheel in the wash-room, at a safe distance from the dry-room, where the water could be turned on by the discoverer of the fire without pulling out the bars, the fire could, in all probability, be smothered without the help of the fire brigade. Automatic sprinklers in the ironing and dry-rooms would also greatly lessen the danger. There should also be at hand a number of chemical extinguishers.

Third. Dry-houses should be so constructed that the floor can be readily cleaned underneath the pipes. Particles of lint are constantly dropping from the clothing and settling upon the pipes and floor, and this deposit, on account of its inflammability, becomes a source of great danger. It is, therefore, of the utmost importance that the floor be frequently cleaned, and this is much more apt to be done if the construction is such that it can be done with little trouble.

Fourth. When the laundry is not entirely disconnected from the wards, fire-proof doors should be provided at the points of communication.

Fifth. The night-watchman should, of course, make regular visits to the different parts of the laundry, and such visits should be registered by some satisfactory device such as the electric clock.

Sixth. The last fire occurred upon a very cold night and it was found that the hydrant just outside of the building was frozen and the water had to be carried from a more distant hydrant which was more protected. This would suggest the advisability of having a stand-pipe or hydrant in the wash-room, where freezing would be impossible.

Seventh. As previously stated, correspondence with several superintendents elicited the fact that it was the invariable custom to load up the dry-house just before quitting and to leave the clothing on the racks to dry through the night, under slight pressure. In some instances it was stated that the steam was entirely turned off, the heat remaining being sufficient to dry the clothing slowly through the night. This was the practice in this hospital after the first fire, but the second experience demonstrated its futility, as it was evident that there was no sure way of knowing that the heat was completely turned off at the end of the day's work. In fact there is no doubt but that there is a great tempta-

tion on the part of the laundryman to leave "just a little" steam on, and this "little" is what does the damage. Even with the night-watchman as a check upon the laundryman, the second fire occurred, and it led to the conviction that the only absolutely safe way is to have the clothing removed entirely from the dry-house early in the evening. It is, therefore, our present practice to have the house filled up just before quitting time, and after supper, between seven and eight o'clock, when the clothing has had time to dry, the assistant laundryman, who lives in the institution, with the help of patients, completely empties the drying chambers and draws the bars out at full length. The night-watchman visits the laundry between eight and nine to see if this has been done. He, of course, also makes his regular visits through the night, which are registered by an electric clock. By having this rule strictly enforced, it is possible to go to bed at night feeling that there is no danger of being aroused in the early morning hours by the cry of fire in the dry-house. In no other way can this feeling of security be had, and the practice is recommended (especially where the laundry is not absolutely fire-proof and disconnected from the wards) as worthy of adoption, despite the increased work which it entails upon the laundry force.

INDUSTRIAL BUILDING.

A large building, 40 feet by 75 feet, two stories in height, has just been erected for industrial purposes. It is located midway between the main building and the central group, and will be much more accessible than the old buildings, which were situated upon leased land in an out-of-the-way place. In this building, occupation will be found for a large number of patients, in mattress-making, general upholstering, harness-repairing, mat-making, brush and broom-making and shoemaking. The laundry has also been greatly enlarged and supplied with the latest machinery. The new ironing-room is equipped with forty-two electric irons, which have thus far been found very satisfactory. The old ironing-room has been transformed into a sewing-room and tailor shop, where all the clothing for our two thousand patients is manufactured. These changes and additions give us excellent rooms for our various industries and add greatly to our facilities for furnishing suitable occupation for those who are able and anxious to work.

RAILROAD CONNECTION WITH THE HOSPITAL.

After a tedious delay in condemning a strip of land which it was necessary to cross in order to reach the hospital, arrangements have been completed for extending the tracks of the Poughkeepsie and Eastern Railroad directly to our coal sheds. Trestles will be built at each boiler-house so that it will be possible to have our coal furnished as it is needed and delivered directly in front of the boilers, without breaking bulk between the mines and the hospital. A switch also connects with the Hudson River Railroad, so that all supplies will hereafter be delivered in cars at our very door. This will not only be a great convenience, but

will undoubtedly result in considerable saving, as the cost of carting coal alone has been more than five thousand dollars a year. It is expected that a satisfactory passenger service will also be provided between the hospital and the city at an early day. The road is to be completed by the first of June.

WARDS FOR ACUTE CASES.

The two wards in the women's division where the acute cases are treated have been renovated and attractively painted and furnished. In the reception ward an operating-room has been provided and supplied with an operating table and chair, instruments and instrument cases, and hot and cold water. On one side of the room is a dark-room for ophthalmological work, while on the other side there is a bedroom. As these three rooms connect with each other, it is possible to take a patient from the operating table to her bed without going out upon the ward and without attracting the attention of the other patients.

MEDICAL STAFF.

Dr. Emma Putnam has been granted a six months' leave of absence, which will be spent in Europe, and Dr. Mary Harley has been appointed to fill the temporary vacancy.

Dr. Thos. E. Bamford, who was granted a three months' leave of absence in November, for the purpose of visiting Europe, has resumed his duties. His place was temporarily filled by Dr. S. F. Mellen, a former assistant at Willard, who has since been appointed to the staff of the Long Island State Hospital.

Dr. J. E. Courtney has recently taken a course in hydrotherapy with Dr. S. Baruch of New York, and Dr. I. G. Harris has just finished a month's work in the State Pathological Institute.

Dr. Oswald C. Stackhouse of Buffalo was appointed as medical interne in December last.

—*Buffalo State Hospital, Buffalo.*—The capacity of the Buffalo State Hospital has been increased during the past year by 250 beds, the capacity now being 1882. There have recently been received from the Hart's Island Department of the Manhattan State Hospital 200 women patients, and from the Rochester State Hospital, thirty men patients; vacancies to the extent of 166 having been created by the transfer from this hospital to the Collins State Homœopathic Hospital, Gowanda, N. Y., of the patients from the counties of Chautauqua and Cattaraugus.

Dr. Joseph B. Betts, assistant physician, has been absent a portion of the winter, attending the course of instruction in pathology at the Pathological Institute, New York City, which scheme of instruction for assistant physicians forms one of the many excellent features of the Pathological Institute.

—*St. Lawrence State Hospital, Ogdensburg.*—The equipment of the Pathological Laboratory has been completed and it now offers facilities for

pathological research equal to that of any small laboratory. During the last fiscal year sixty-five autopsies were held, representing sixty per cent. of the total number of deaths. Material for microscopical analysis and study was obtained from thirty-two of these cases, representing a total of 1160 specimens fixed and hardened for future imbedding and study. The Pathological Museum was enriched by the addition of 29 new specimens. The material for microscopical work was prepared, fixed and hardened and catalogued in conformity with the system in vogue at the State Pathological Institute.

Studies of the nerve-cell lesions of thyroid intoxication, experimental uræmia and serum intoxication of epilepsy are now being carried out. Rabbits and dogs furnish material for this work.

Considerable elective surgical work has been carried out during the year. Excellent results have been obtained in the radical cure of hernia by Bassini's method. No relapses have occurred in five cases in which this operation was done. Lumbar puncture still has its field of usefulness in advanced cases of paresis presenting symptoms of increased intra-dural pressure. It was performed in 24 cases during the year with temporary or slight beneficial results in one-third of the cases punctured. The total number of elective or imperative surgical operations performed during the year was sixty, including the cases above mentioned. The remainder included cases of appendicitis, hæmorrhoids, hydrocele, phimosis, strabismus, varicocele and patients upon whom minor amputations, iridectomy or celiotomy was performed.

The Farm Cottage, a new building accommodating sixty-two patients, was occupied in October last. It is conveniently situated about one-half a mile from the Executive Building near the barns and farm and is occupied by men patients who are employed in these places. The increased accommodations were filled by the transfer of fifty patients from the Manhattan State Hospital.

The Creamery has been in operation for nearly a year and its results have proved satisfactory both in the quality of the butter and the price. We obtain our milk from the farmers in the vicinity at the market prices and consume upwards of 80,000 pounds of milk per month. We are now making sufficient butter for our own needs and we expect very shortly to be able to supply enough to furnish another State hospital.

In the rear wing of the Infirmary certain changes have been made which increased the capacity of that building by about twenty. Inside partitions have been removed and two large rooms made, the one upstairs to be a dormitory and the one below a day-room.

North Carolina.—*State Hospital, Morganton.*—The census at the close of the fiscal year, November 30, 1898, was 754 patients.

The result of the medical work is up to the average standard of the hospital, but not quite so good as the last biennial period. The percentage of recoveries was, respectively, for the years 1897 and 1898, 38 per cent. and 53.47 per cent., making an average of 45.8 per cent. yearly for

the period; the death-rate was 4.06 and 3.53 per cent. on the whole number under treatment, with an average for the period of 3.8 per cent.

During the year 1897 a large number of female patients were admitted, nearly all of whom were chronic cases. This accounts for the falling off of recoveries and the increased death-rate, but even with this it may be considered a fairly good result.

In the last annual report, Dr. Murphy refers to the prevalence of tuberculosis, and the need of isolation for its prevention, the number of cases in the hospital having increased.

OHIO.—*Cleveland State Hospital, Cleveland.*—The new bathing system is now in full operation and giving universal satisfaction. The bath-house is separate from the building in which the patients are cared for, thereby necessitating going out of doors to take the bath. Even in the extreme cold weather of last month this was found to be no objection at all, but rather an advantage. The bathroom is divided through the center into twenty bathing stalls, and opposite each bathing stall is a dressing booth. The temperature of the water is controlled by the Gegenstrom Universal Mixing Valve.

The school for the patients has been a gratifying success throughout the winter, great interest being manifested; nor was the interest confined to young people alone, many gray-haired men and women taking an active part in the work of the school.

—*Longview Hospital, Carthage.*—The year has brought no special changes in the methods of treatment of patients, nor in the general management of the institution. The various amusements have been provided for the enjoyment of all. As usual, employment for nearly all who are in fit condition for work has been found.

Most of the wards now have cozy corners tastily furnished with divans, window seats, grill work, etc., made in the institution. New pictures of good subjects are hung, from time to time, as rapidly as the frames can be carved.

—*Massillon State Hospital, Massillon.*—This hospital was opened for the reception of patients on September 6th of last year, and now has about 350 patients. It is only partially constructed and seven buildings are now under contract. The capacity of the hospital, when completed, will be about fifteen hundred. The site is a beautiful one, being an elevated ridge two miles south of Massillon, overlooking a fertile valley to the west. The plan of the hospital is the cottage plan, with special hospitals for the treatment of acute cases; one for each sex, and each accommodating one hundred and forty patients; and two infirmaries for the demented and feeble among the chronic cases, each accommodating about the same number; the remainder of the patients being provided for in detached buildings or cottages, each one accommodating from fifty to sixty-five or seventy patients. There is a general dining-hall for patients and employees, subdivided into three compartments and with a seating capacity of about fourteen hundred.

It is hoped that the institution will be completed within two years. Dr. Richardson was appointed to take charge of the work of opening the hospital in May last. The staff includes S. O. Latimer, steward; Doctors C. H. Clark, and C. B. Rogers, assistant physicians; and Mr. W. G. Cappeller, store-keeper.

PENNSYLVANIA.—*Western Pennsylvania Hospital, Dixmont.*—The following extract is taken from the annual report for 1898:

"The training-school established two years ago has been continued with unabated enthusiasm by the medical staff, the lectures have been prepared with much care and the course of instruction and teaching made as comprehensive, and the requirements for graduation as exacting, as facilities would permit. We have also been aided by a number of physicians from Pittsburgh and vicinity, who cheerfully consented to assist us, and whose lectures have contributed largely to the success of the school. On the evening of May 6th, 1898, the Second Graduating Exercises were held, and diplomas awarded by the President to seven successful candidates—six young women and one young man. The many advantages to the hospital from this feature of its management become more apparent each year; its influences are seen and felt in every department—they cannot be overestimated—and it is most gratifying to the officers to feel the expectations so confidently predicted in its establishment are now more than realized.

"Necessarily the medical and scientific work of the hospital has been much the same as in former years, though constant endeavor has been made to enlarge the scope and usefulness of these adjuncts in the general treatment, in extending and applying such remedial measures as special cases would warrant and where they were deemed expedient. The system of daily reports and notation of symptoms of all cases requiring, at the time, medical supervision have been conducted in a thorough manner, affording the patient a moral restraint in his protection and freedom from the impulses of a disordered will and in bringing into closer personal relations those opportunities for the more careful and detailed study of the case. Experience teaches it is the individual treatment and personal contact of the physician with the patient that accomplishes more than all other means combined to hasten recovery, and it is deplorable the crowded condition of our wards conflict with this method in so large a measure. The various new remedies, those whose qualities and definite physiological action have been thoroughly tested and ascertained were employed and, in the female department, local examinations and a number of important surgical operations conducted in the hope of relieving certain disorders. A most important feature has been the examination for eye troubles and their correction in the proper adjustment of glasses where necessary and the consequent relief of much mental irritation and nervous excitability."

—*The Pennsylvania Epileptic Hospital and Colony Farm* are about to erect an industrial building for the purpose of giving the patients useful

employment where they cannot be employed out of doors. Shops will be fitted up for brush and broom-making, cane-seating and sloyd work on the second floor; the first floor to be used for blacksmith, carpenter and paint shops. The health of patients at the Colony is excellent, and nearly all show a marked and progressive improvement in the half-year past. No changes have occurred in the medical organization.

RHODE ISLAND.—*Butler Hospital for the Insane, Providence.*—In discussing the admissions and discharges of the year, Dr. Gorton calls attention to the beneficent working of the law permitting voluntary commitments. Eight cases of mental disease, who to a large extent realized their condition, entered the hospital voluntarily and from this class comes a large proportion of recoveries. Thus far no friction has arisen in their care and they have been more contented than had they been regularly committed. Three cases only, not insane, have thus entered the hospital for the purpose of overcoming some drug habit. It must be admitted that these patients received considerable benefit from their residence.

TEXAS.—*State Lunatic Asylum, Austin.*—In his last annual report, Dr. Worsham calls attention to the fact that the State has never provided facilities for a thorough and scientific investigation of the insane, and urges provision for the equipment of a laboratory at this institution. This would not only furnish a splendid course of instruction to the physicians in connection with the Asylum, but would afford an opportunity for the State University to furnish one or more internes from the medical department, whose services would be of great value.

VIRGINIA.—In the twenty-eighth Annual Report of the *Central State Hospital at Petersburg*, Dr. Drewry makes the following suggestions for the betterment of the scientific work:

"If we would accomplish the best results in the treatment of mental diseases, the diagnosis must first be established upon a basis of scientific research and exact pathology. The advantage which a pathological laboratory offers in increasing our knowledge of insanity and thereby leading to more successful treatment cannot be gainsaid, for it has been clearly demonstrated at a number of other institutions. As I said in my last annual report, no well-equipped institution can be without this essential feature. Believing that the smallness of the annual appropriations allowed by the last Legislature would not permit of the establishment, at this time, of a laboratory at this or any other hospital, I would suggest that arrangements be made with one of the medical schools of the State, where the necessary appliances and the persons possessing the requisite skill and technique are available.

"The abundant material, ante-mortem and post-mortem, which could be collected from our State hospitals would be interesting and instructive. These exceptional opportunities offered for scientific research should no longer remain unimproved. It is a duty we owe ourselves, the patients,

the profession and the public generally, that we utilize every possible means to enlarge our knowledge of the diseased conditions producing insanity. I have asked the other superintendents to co-operate in this effort to accomplish a much-needed and long-neglected improvement in the medical work of our institutions. The expense to each hospital would not exceed $125 per year. Surely it is time that more and better original work was being done in our State hospitals. Will not this hospital take the initiative step at once along this progressive line? Before, however, the work suggested above could be prosecuted, so far as this institution is concerned, a new morgue would have to be constructed and fitted up with the necessary appliances. Nothing is more needed here than a properly equipped place where post-mortems could be held."

A Quarterly Bibliography of Psychological Literature

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BOOKS.

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the profession and the public generally, that we utilize every possible means to enlarge our knowledge of the diseased conditions producing insanity. I have asked the other superintendents to co-operate in this effort to accomplish a much-needed and long-neglected improvement in the medical work of our institutions. The expense to each hospital would not exceed $125 per year. Surely it is time that more and better original work was being done in our State hospitals. Will not this hospital take the initiative step at once along this progressive line? Before, however, the work suggested above could be prosecuted, so far as this institution is concerned, a new morgue would have to be constructed and fitted up with the necessary appliances. Nothing is more needed here than a properly equipped place where post-mortems could be held."

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Ziehen (T.). Beiträge zur Opium-Brom-Behandlung der Epilepsie. Therap. Monatsch., Berl., 1898, xii, 415-422.

Appointments, Resignations, Etc.

ALDRICH, DR. EDWARD G., formerly Medical Interne, promoted to be Junior Assistant Physician at the Buffalo State Hospital, Buffalo, N. Y.

BAHR, DR. MAX, appointed Interne at the Central Indiana Hospital for the Insane, Indianapolis, Ind.

BALCH, DR. HARRIET ELIZABETH, appointed Assistant Physician at the Long Island Home, Amityville, N. Y.

BARKER, DR. EDITH A., formerly Pathologist at the Delaware State Hospital, Farnhurst, Del., appointed Pathologist at the State Hospital for the Insane, Norristown, Pa.

BASSOE, DR. PETER, appointed Second Assistant Physician and Pathologist at the Iowa Hospital for the Insane, Mt. Pleasant, Iowa.

BOWLBY, DR. F. E., resigned as Assistant Physician at the Willard State Hospital, Willard, N.Y.

BROWNRIGG, DR. A. E., appointed Second Assistant Physician at the New Hampshire Asylum, Concord, N. H.

CLARK, DR. JOSEPH C., appointed Superintendent of the Second Maryland Hospital for the Insane, Sykesville, Md.

CURWIN, DR. ARTHUR S., appointed Fourth Assistant Physician at the New Jersey State Hospital, Morris Plains, N. J.

DESSEZ, DR. PAUL T., resigned from the Matteawan State Hospital, Matteawan, N. Y., to accept a position as Assistant Physician at the U. S. Soldiers' Home, Hampton, Va.

FINEFROCK, DR. C. B., resigned as Assistant Physician at the Cleveland State Hospital, Cleveland, Ohio.

FURLONG, DR. FRANCIS M., resigned as Junior Assistant Physician at the Matteawan State Hospital, Matteawan, N. Y., and appointed Volunteer Assistant Surgeon in the United States Navy, attached to the U. S. S. "Iowa."

GIBNEY, DR. E. CARSON, resigned as Medical Interne at the Utica State Hospital, Utica, N. Y.

HOBSON, DR. WILLIS S., appointed Assistant Physician at the Cleveland State Hospital, Cleveland, Ohio.

HUTCHINSON, DR. MARCELLO, resigned the Superintendency of the Massachusetts Hospital for Dipsomaniacs and Inebriates, Foxboro, Mass., to accept the Superintendency of the Vermont State Hospital for the Insane, Waterbury, Vt.

KELLY, DR. JAMES F., appointed Assistant Physician at the Cleveland State Hospital, Cleveland, Ohio.

LIGHTLE, DR. W. E., resigned as Second Assistant Physician at the New Hampshire Asylum, Concord, N. H.

MCNAMARA, DR. A. J., resigned as Assistant Physician at the Cleveland State Hospital, Cleveland, Ohio.

O'DONNELL, DR. WILLIAM J., appointed Medical Interne at the Buffalo State Hospital, Buffalo, N. Y.

PAGE, DR. FRANK W., resigned the Superintendency of the Vermont State Hospital for the Insane, Waterbury, Vt.

PAULSELL, DR. JULIA K., appointed Assistant Physician at the Danvers State Hospital, Danvers, Mass.

PERRY, DR. MIDDETOWN L., resigned as Fourth Assistant Physician at the New Jersey State Hospital, Morris Plains, N. J.

PETTIJOHN, DR. F. L., appointed Assistant Physician at the Central Indiana Hospital for the Insane, Indianapolis, Ind.

PIERCE, DR. E. EUDORA, resigned as Assistant Physician at the Long Island Home, Amityville, N. Y.

RAINEY, DR. HARVEY W., resigned as Assistant Physician at the Central Indiana Hospital for the Insane, Indianapolis, Ind.

REMINGTON, DR. ALVAH C., formerly Medical Interne, promoted to be Junior Physician at the Rochester State Hospital, Rochester, N. Y.

ROSS, DR. FRANK A., appointed Third Assistant Physician at the Danvers Lunatic Hospital, Danvers, Mass.

Ross, Dr. Frank R., appointed Second Assistant Physician at the State Lunatic Asylum, Austin, Texas.

Scouler, Dr. Ambrose A., appointed Assistant Physician at the Long Island Home, Amityville, N. Y.

Shaw, Dr. H. L. K., resigned as Junior Assistant Physician at the Utica State Hospital, Utica, N. Y.

Shellman, Dr. Arthur P., appointed Junior Assistant Physician at the Willard State Hospital, Willard, N. Y.

Smith, Dr. Gilbert T., appointed Interne at the Northern Indiana Hospital for the Insane, Logansport, Ind.

Smith, Dr. Mary, resigned as Assistant Physician at the Central Indiana Hospital for the Insane, Indianapolis, Ind.

Stevens, Dr. Frank T., appointed First Assistant Physician at the Iowa Hospital for the Insane, Mt. Pleasant, Iowa.

Stockton, Dr. Sarah, appointed Assistant Physician at the Central Indiana Hospital for the Insane, Indianapolis, Ind.

Tester, Dr. J. Nelson, resigned as Assistant Physician at the Utica State Hospital, Utica, N. Y.

Tolfree, Dr. Herbert M., resigned as Assistant Physician at the Long Island Home, Amityville, N. Y.

Wade, Dr. Abigail D., appointed Third Assistant Physician at the Iowa Hospital for the Insane, Mt. Pleasant, Iowa.

Waldo, Dr. Louis T., appointed Medical Interne at the Willard State Hospital, Willard, N. Y.

Watson, Dr. Florence Hull, resigned as Pathologist at the State Hospital for the Insane, Norristown, Pa.

Wiley, Dr. J. E., resigned as Medical Interne at the Alabama Bryce Insane Hospital, Tuscaloosa, Ala.

Willien, Dr. Wm. Fleming, resigned as Interne at the Northern Indiana Hospital for the Insane, Logansport, Ind.

Wilson, Dr. Jean, appointed Pathologist at the Delaware State Hospital, Farnhurst, Del.

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